FOR.A®
INNOVATIONS IN VIDEO
and AUDIO TECHNOLOGY

OPERATION MANUAL

UFM-30CTL

Control Card

5th Edition (Version. 5.00 - higher)

FOR-A COMPANY LIMITED

Precautions

Important Safety Warnings

[Power]

Stop	**Do not** place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.

[Circuitry Access]

Stop	**Do not** touch any parts / circuitry with a high heat factor. Capacitors can retain enough electric charge to cause mild to serious shock, even after power is disconnected. Capacitors associated with the power supply are especially hazardous. Avoid contact with any capacitors.
Hazard	Unit **should not** be operated or stored with cover, panels, and / or casing removed. Operating unit with circuitry exposed could result in electric shock / fire hazards or unit malfunction.

[Potential Hazards]

Caution	If abnormal smells or noises are noticed coming from the unit, turn power off immediately and disconnect power cord to avoid potentially hazardous conditions. If problems similar to above occur, contact authorized service representative **before** attempting to again operate unit.

[Consumables]

Caution	The consumables used in unit must be replaced periodically. For further details on which parts are consumables and when they should be replaced, refer to the specifications at the end of the Operation Manual. Since the service life of the consumables varies greatly depending on the environment in which they are used, they should be replaced at an early date. For details on replacing the consumables, contact your dealer.

Upon Receipt

Unpacking

The UFM-30CTL modules and their accessories are fully inspected and adjusted prior to shipment. Operation can be performed immediately upon completing all required connections and operational settings.
Check your received items against the below packing list. Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

ITEM	QTY	REMARKS
UFM-30CTL	1 set	Front module 1 Rear module 1
LAN holder	1 set	LAN holder (holder and bracket)
Module guard	1	Guard plate for securing front module.
Binding screws	1 set	Binding screws (M3xL6) x 5 Binding screws (M3xL8) x 2
CD-ROM	1	UFM Series user manuals (PDF)

The UFM-30CTL module can be installed into a UF-106B or UF-112 frame.

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1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing a UFM-30CTL Control Card you have entered the world of FOR-A and its many innovative products. Thank you for your patronage and we hope you will turn to FOR-A products again and again to satisfy your video and audio needs.
FOR-A provides a wide range of products, from basic support units to complex system controllers, which have been increasingly joined by products for computer video-based systems. Whatever your needs, talk to your FOR-A representative. We will do our best to be of continuing service to you.

1-2. Features

The UFM-30CTL is a plug-in module that can be installed into UFM frames. The UFM-30CTL can monitor modules that are installed in the same UFM frame as itself from a web browser or by using SNMP. Some installed UFM modules such as FA-30FS/FS-R/FS-DA and FA-30UDC can be controlled remotely via web browser or remote control unit UF-NETRU. A UFM-30DCC that is installed in the same UFM frame can be remote-controlled via web browser or by using an operation unit DCC-NETOU.

- UFM frame module (installed to UF-106B and UF-112)
- Supervision over UFM modules via web browser

Monitoring & Control	UFM-30FS/FS-R/FS-DA UFM-30DCC UFM-30UDC UFM-42HDRS/HDRSA UFM-30FRC UFM-30NR
Monitoring	UFM-15VEA UFM-14/18ADA UFM-15/18VDA UFM-30DDA/3DDAEX

- Remote control over UFM-30FS/FS-R/FS-DA and UFN-30UDC via UF-NETRU
- Remote control over UFM-30DCC from operation units (DCC-NETOU)
- Monitoring of UFM modules using SNMP
  * SNMP and remote control units use LAN interfaces, respectively.

1-3. PC System Requirements

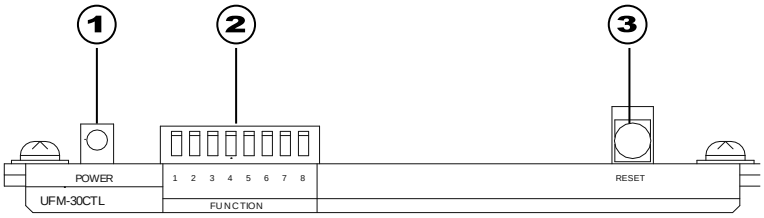
Item	Recommendation		
OS	Windows XP Professional (32bit) SP2 or later (*1)	Windows Vista Business (32bit) SP1 or later	Windows 7 Professional (32/64bit) SP1 or later
WEB browser (*2)	Firefox 21.0 or later	Firefox 21.0 or later	Firefox 21.0 or later
	Internet Explorer 8	Internet Explorer 8 or later	Internet Explorer 9 or later
CPU	Intel Pentium 4, 2.4 GHz or faster	Intel Core 2 Duo, 2 GHz or faster	Intel Core 2 Duo, 2 GHz or faster
Memory	1 GB or more	2 GB or more	2 GB or more
Available Disk Space	1 MB or more		
Display	1024 x 768 (XGA), 24-bit or more		
Interface	Ethernet, at least one port		

(*1) Updating from Windows XP SP2 to SP3 may result in improper operation. In such case, please initially install Windows XP SP3, or use Windows XP SP2 without updating.

(*2) Firefox is highly recommended.

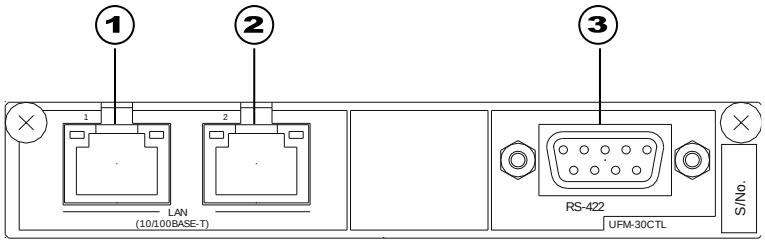
2. Panel Descriptions

2-1. Front Panel



No.	Name	Description
(1)	POWER indicator	Lit: UFM-30CTL has booted and is operating normally. Unlit: Power is not being supplied. Blink: UFM-30CTL is in the process of booting.
(2)	FUNCTION switch	Switches to set the UFM-30CTL operation mode. (See section 2-5. "FUNCTION Switch Settings.") Normally set as the factory default.
(3)	RESET switch	Restarts UFM-30CTL. May not be used when turning off the UFM Frame after being disconnected from network.

2-2. Rear Panel

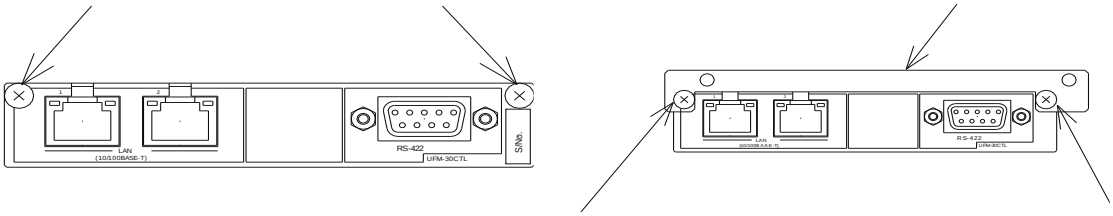


No.	Name	Description
(1)	LAN1	Ethernet port for either UF-NETRU or WEB browser (100BASE-TX/10BASE-T, RJ-45)
(2)	LAN2	Ethernet port for SNMP (100BASE-TX/10BASE-T, RJ-45)
(3)	RS-422	RS-422 connector for expansion (9 pin, D-sub, female)

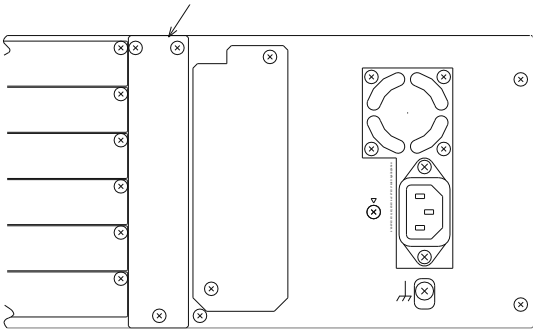
2-3. Installing the UFM-30CTL into a UF-112

2-3-1. Installing the Rear Module

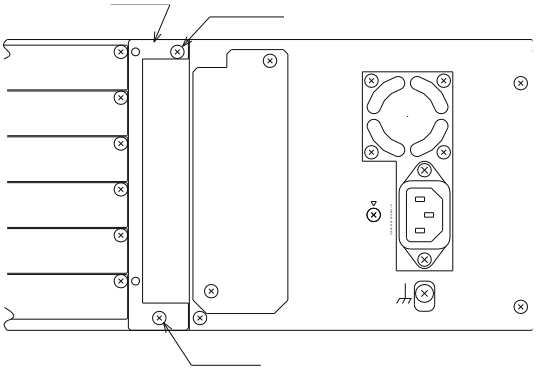
(1) Remove the two step screws from both sides of the UFM-30CTL rear panel.



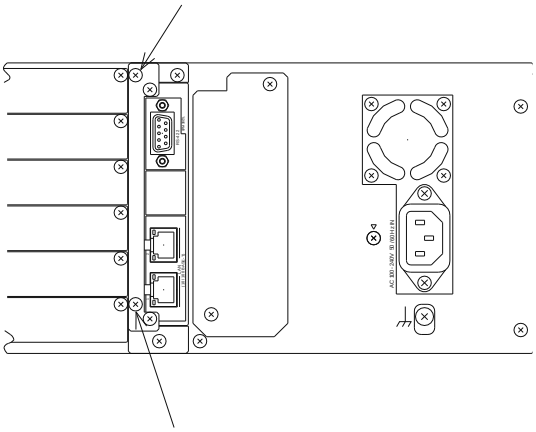
(2) Place a LAN holder on the UFM-30CTL as shown above and secure with the supplied (short) binding screws on both sides.
(3) Remove a blank plate from the UF-112 rear panel.



(4) Attach a bracket to the slot as shown below, and secure the bracket with the supplied (short) binding screws.

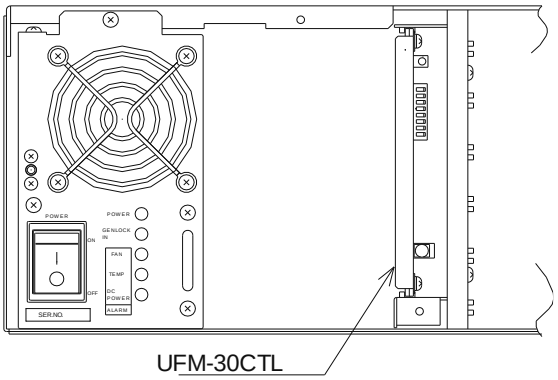


(5) Install the UFM-30CTL into the slot and secure with the supplied (long) screws.

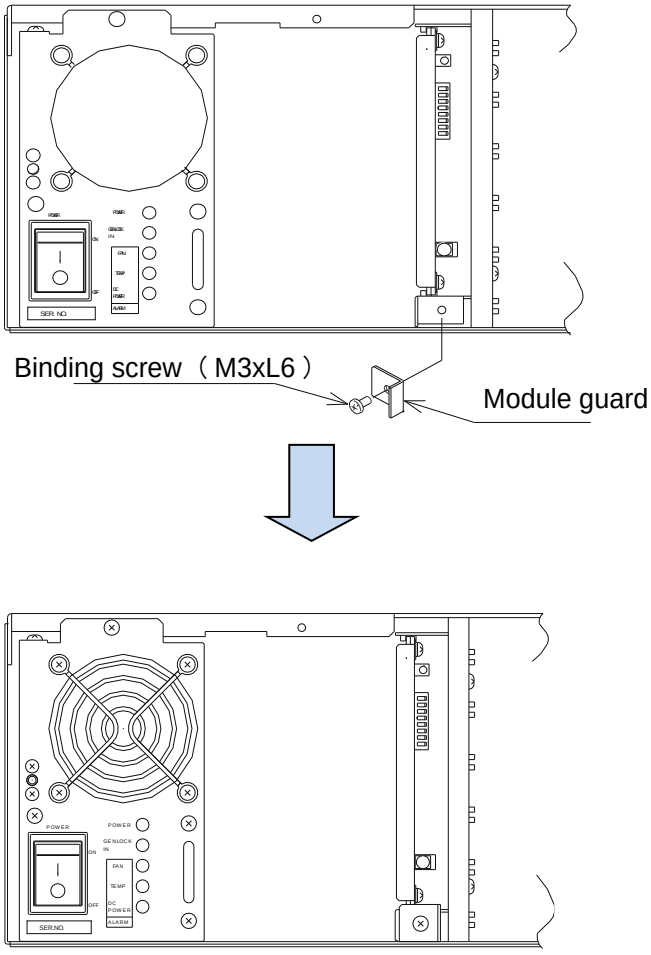


2-3-2. Installing the Front Module

(1) Remove the front panel of the UF-112 and install the UFM-30CTL front module as shown below.



(2) Place a module guard as shown below and secure with the supplied (short) binding screw.

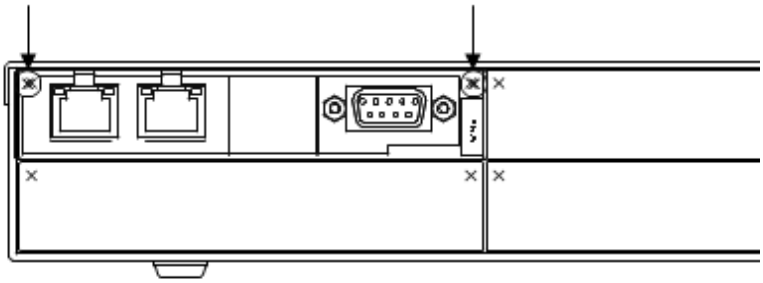


2-4. Installing the UFM-30CTL into a UF-106B

A UFM-30CTL module can be installed into any unused slot on the UF-106B. If your UF-106B has enough slots, leave an empty slot on each side of the module in order to maintain enough airflow for cooling and facilitating access to connectors on the rear.
After installing the UFM-30CTL, refer to section 4-4. "Module Selection and Network Settings (UF-106B)" to set module network and slot settings.

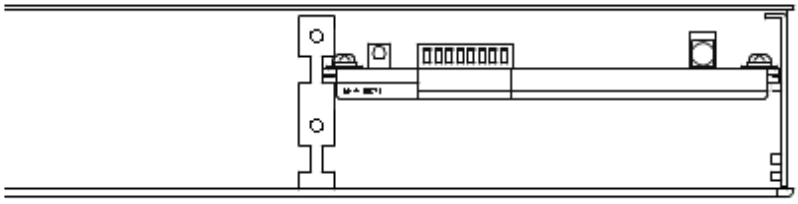
2-4-1. Installing the Rear Module

(1) Turn the power of the UF-106B off.
(2) Removing a blank plate.
Blank plates are attached on unused slots on the rear of the UF-106B. Remove the two screws securing the blank plate of the desired slot on the UF-106B real panel and remove the blank plate. Keep the blank plate in a safe place.
(3) Inserting a rear module.
Position the rear module between the guide rails of the slot and carefully insert the module into the slot.
(4) Securing the module.
Tighten both screws to secure the rear module on the rear panel.



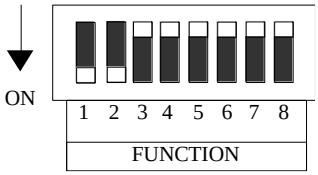
2-4-2. Installing the Front Module

(1) Removing the card-securing bracket.
A bracket for securing cards is attached to the UF-106B front panel. Remove both screws on the bracket and remove the bracket.
(2) Inserting the front module.
Position the front module between the guide rails of the slot and carefully insert the module into the slot.
(3) Securing the module
Attach the bracket removed in Step (1) and tighten both screws to secure the bracket on the front panel.



2-5. FUNCTION Switch Settings

The factory default FUNCTION switch settings on the front panel are shown below.



SW No	Default setting	Function
1	ON (Fixed)	-
2	ON (Fixed)	-
3	OFF (Fixed)	-
4	OFF (Fixed)	-
5	OFF (Fixed)	-
6	OFF (Fixed)	-
7	OFF (Fixed)	-
8	OFF	MIB selection

Settings **SW1** to **7** are to remain fixed.

SW8 setting

Setting	MIB version
OFF	2.0 or higher
ON	Less than 2.0 (for products before 2011)

The MIB version is described in MIB files.
After changing the SW8 setting, reset your UFM-30CTL by setting the power off, then on again, or by pressing the RESET switch.

3. System Configuration

The UFM-30CTL has two Ethernet ports for two LAN connections: One for remote control and monitoring, and the other for monitoring via SNMP.
The UFM-30CTL can be controlled from PC via web browser connected to the LAN1 port. The remote control and monitoring of UFM modules by PC via web browser also uses the LAN1 port. Connect PCs within the same network. The monitoring via SNMP uses the LAN2 port.

IMPORTANT
Make sure all devices are turned off when connecting them. Be sure to set appropriate IP addresses for PCs that will be connected to the network for controlling or monitoring. If you are going to connect more than 1 unit of the same product, change the IP address or addresses before connection to avoid IP address duplication.

3-1. Setting IP Addresses

◆ **Default settings**

Product	UFM-30CTL LAN1 port	UFM-30CTL LAN2 port	UF-NETRU/ DCC-NETOU
IP address	192.168.0.10	192.168.0.11	192.168.0.100
Subnet mask	255.255.255.0	255.255.255.0	255.255.255.0
Default Gateway	0.0.0.0 (Invalid)	0.0.0.0 (Invalid)	0.0.0.0 (Invalid)

◆ **UFM-30CTL network settings**

Refer to section 4-3. "Module Selection and Network Settings (UF-112)" or 4-4. "Module Selection and Network Settings (UF-106B)" and change IP addresses accordingly.

◆ **UF-NETRU network settings**

Refer to the UF-NETRU Operation Manual.

◆ **DCC-NETOU network settings**

Refer to the DCC-NETOU Operation Manual.

◆ **PC network settings for controlling UFM-30CTL or monitoring modules**

To connect the UFM-30CTL, set the Ethernet port of a PC as shown or in the range shown below to connect to the same network as that of the UFM-30CTL.

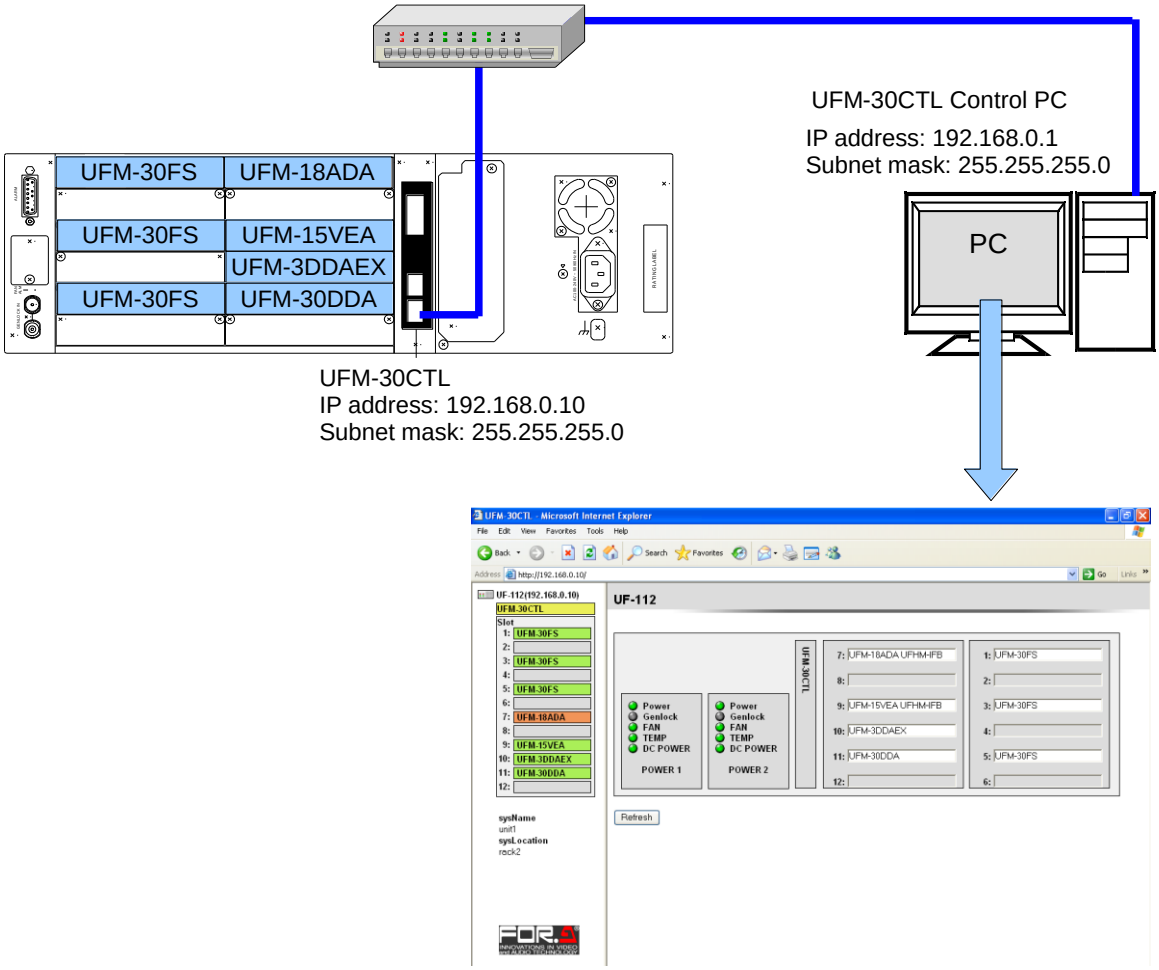
IP address: 192.168.0.1 to 192.168.0.254
(Except 192.168.0.10, 192.168.0.11, and 192.168.0.100)
Subnet mask: 255.255.255.0

In PC, go to the "Local Area Connection" [Properties] window > [Internet Protocol (TCP/IP) Properties] window and set the IP address and Subnet mask. See the user's manual of your computer for more details.

3-2. Basic Connection

Connect a PC to control the UFM-30CTL from the LAN1 port of UFM-30CTL using an Ethernet hub and straight cables.

◆ **Connection example**



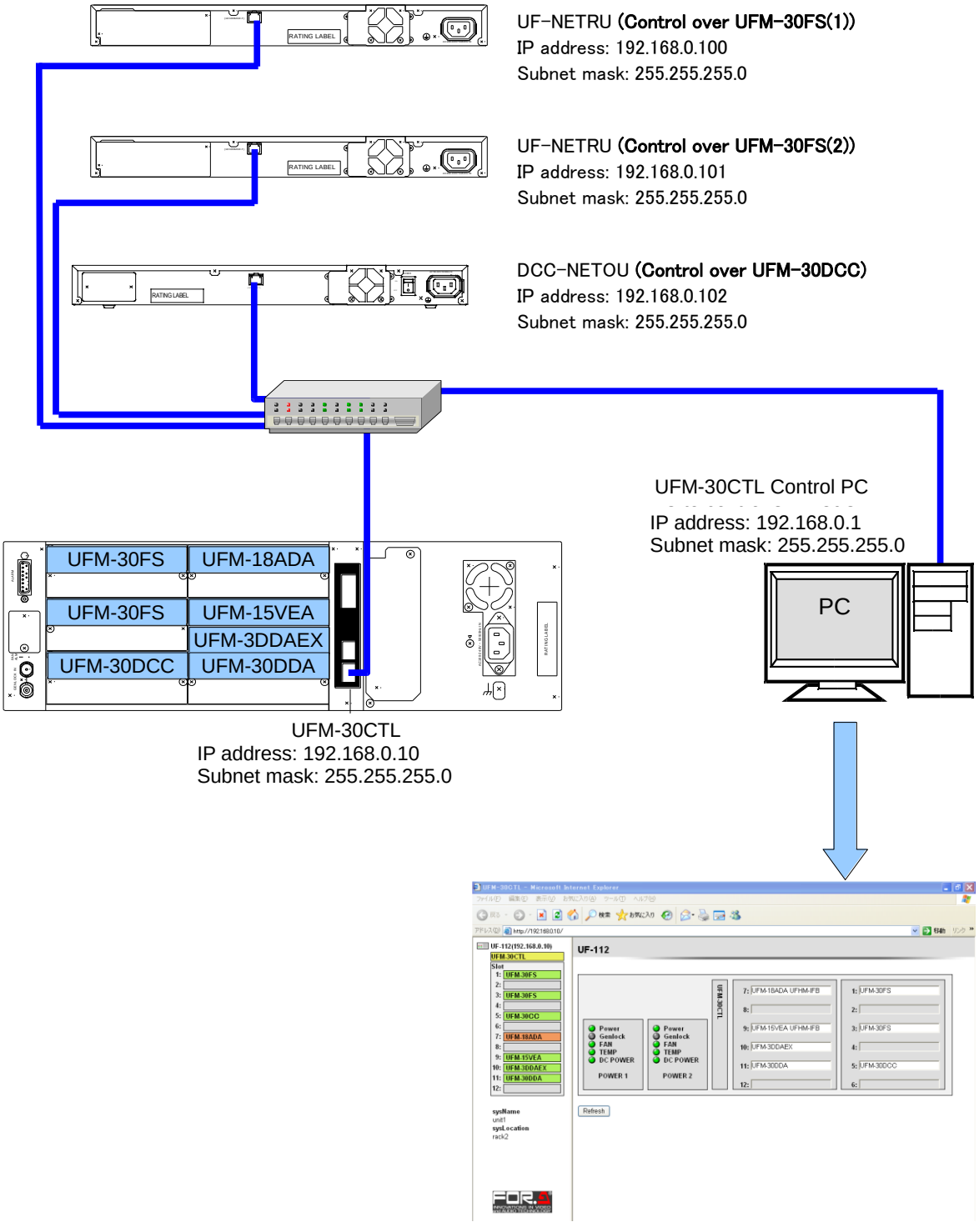
The connected PC can do the following via web browser.

Module	Reference
Modifying settings of UFM-30CTL	See section 4. "UFM-30CTL Settings."
Controlling UFM-30FS/FS-R/FS-DA	See section 5. "Controlling UFM-30FS/FS-R/FS-DA."
Monitoring UFM-30DDA/3DDAEX	See section 11-1. "UFM-30DDA/3DDAEX ."
Monitoring UFM15VDA/18VDA	See section 11-2. "UFM-15VEA/15VDA/18VDA."
Monitoring UFM15VEA	See section 11-2. "UFM-15VEA/15VDA/18VDA."
Monitoring UFM-14ADA/18ADA	See section 11-3. "UFM-14ADA/18ADA."
Controlling UFM-30DCC	See section 6. "Controlling UFM-30DCC."
Controlling UFM-30UDC	See section 7. "Controlling UFM-30UDC."
Controlling UFM-42HDRS/HDRSA	See section 8. "Controlling UFM-42HDRS/HDRSA."
Controlling UFM-30FRC	See section 9. "Controlling UFM-30FRC."
Controlling UFM-30NR	See section 10. "Controlling UFM-30NR."

3-3. Connection including UF-NETRU/DCC-NETOU (LAN1)

Connect a PC to the UFM-30CTL LAN1 port to control UFM-30CTL, and UF-NETRU/ DCC-NETOU using an ethernet hub and straight cables.
The connection shown below enables you to control each of two UFM-30FS module units from two UF-NETRU units respectively and a UFM-30DCC from a DCC-NETOU unit. The UFM-30FS modules can also be selected and controlled one at a time by UFM-30CTL via web browser.

◆ **Connection example**



4. UFM-30CTL Settings

If UFM-30CTL web pages are not displayd properly, refresh pages in the web browser.

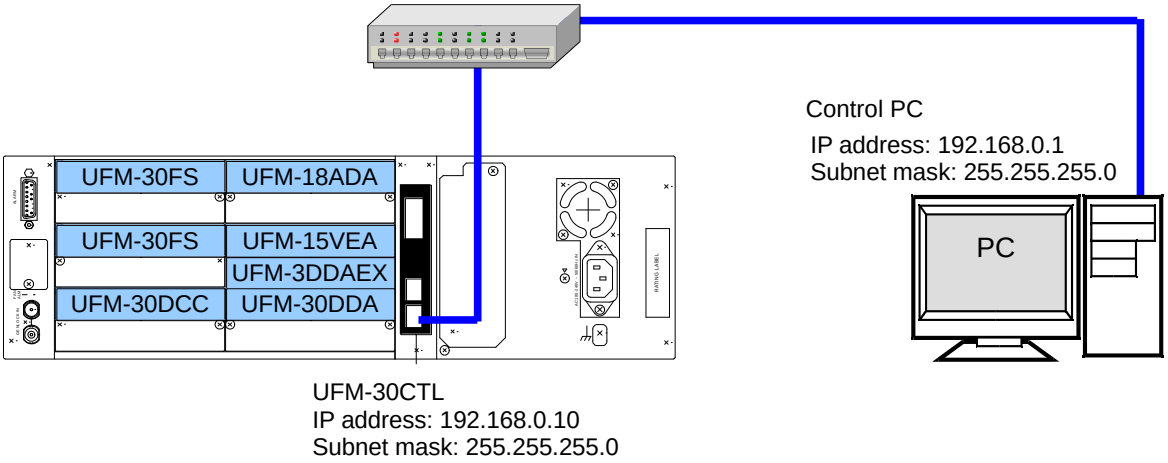
4-1. Login and Setup

◆ **Accessing to the UFM-30CTL**

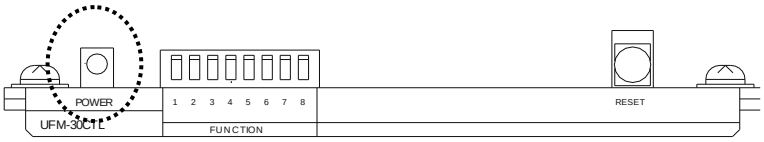
(1) If you are connecting your UFM-30CTL and a PC for the first time, set the IP address of the PC in the range shown below.

IP address: **192.168.0.1** to **192.168.0.254** (Except 192.168.0.10)
Subnet mask: **255.255.255.0**

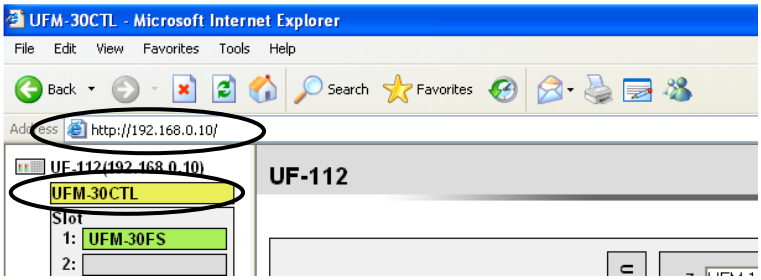
(2) Connect the UFM-30CTL LAN1 port and the PC either directly using a cross cable or via network hub using straight cables. (The IP address of the PC is set to 192.168.0.1 in the figure below.)



(3) Power on the UFM frame. The POWER indicator on the front module will light green after UFM-30CTL setup is complete.



(4) Open a web browser in the PC, and enter the address **http://192.168.0.10/**. Press [**Enter**] on the keyboard to access the UFM-30CTL.



◆ **Login**

(1) To open the UFM-30CTL setting page, UFM-30CTL login is required. Click **UFM-30CTL** in the left web browser window pane. The authentication dialog appears.

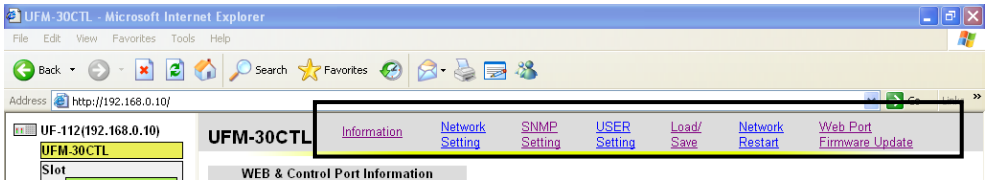
(2) Enter a user name and password.
The factory default is as below.

User name: ufm-30ctl
Password: foranetwork

(3) Click **OK**. The UFM-30CTL setting window will be displayed.

◆ **Setup**

The UFM-30CTL setting window consists of seven pages. Links to each page are shown at the top of the page. The UFM-30CTL settings can be changed as shown in the table below.



Page	Description	Refer to
Information	Displays LAN1 (WEB) and LAN2 (SNMP) port network settings and other information.	4-2
Network Settings	Allows you to select control modules and to change the LAN1 (WEB) and LAN2 (SNMP) network settings.	4-3 4-4
SNMP Settings	Allows you to adjust SNMP monitoring settings.	4-7
USER Settings	Allows you to change the user name and UFM-30CTL WEB browser login password.	4-5
Load / Save	Allows you to save or load UFM-30CTL setting parameters.	4-8
Network Restart	Allows you to restart networking for UFM-30CTL.	
Web Port Firmware Update	Allows you to update UFM-30CTL firmware.	

(1) Click **Network Setting** to go to the Network Setting page.
(2) You have to select modules before control. **Check on module labels** (up to 5). (See sections 4-3 and 4-4 for details.)
(3) If using a UF-106B, **specify the UFM-30CTL slot number** under CTL Board Setting in this page. **Default slot** is **1**. Change the slot number if your UFM-30CTL is installed on another slot. (See sections 4-4 for details.)

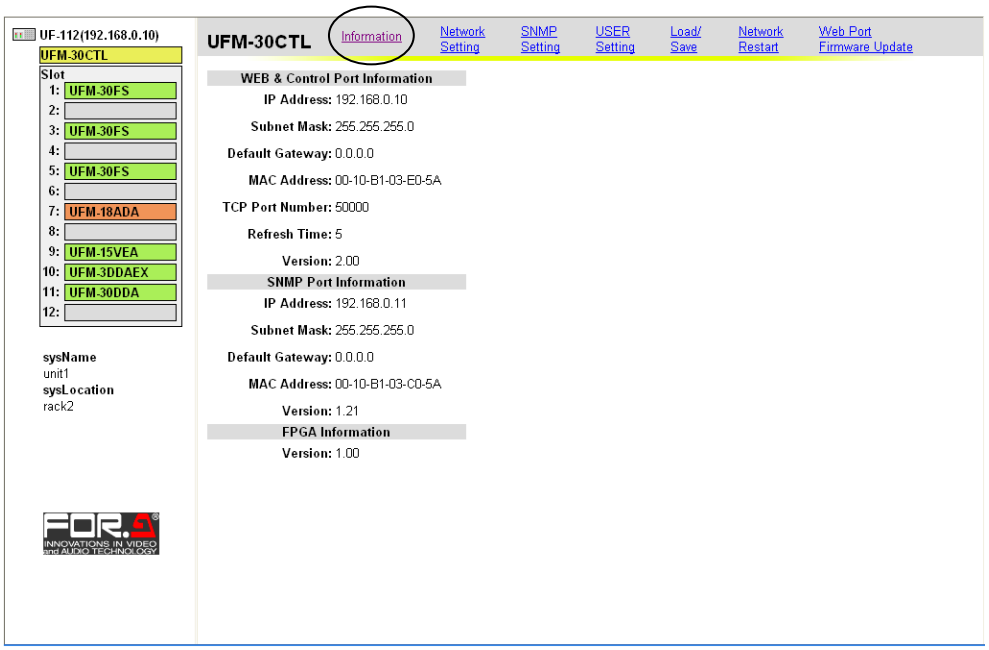
To change network settings, user account or other settings, see the following sections.

(4) Click **Submit**.
(5) Turn Off then On the UFM frame..
(6) Close and reopen the web browser.

Enter the address http://[UFM-30CTL **LAN1 IP address]/**. Press [**Enter**] on the keyboard to access the UFM-30CTL.
Refer to Section 5 and later to monitor or control your UFM modules.

4-2. Displaying UFM-30CTL Information

Click **Information** to go to the Information page. Network, software version and FPGA version information are displayed.



Web & Control Port Information

Menu item	Description
IP Address	IP address for LAN1
Subnet Mask	Subnet mask for LAN1
Default Gateway	Default gateway for LAN1
MAC Address	MAC address for LAN1
TCP Port Number	TCP port number for LAN1 connection (UF-NETRU/DCC-NETOU control connection)
Refresh Time	Refresh time interval for automatic updates to Web page entries.
Version	Port version for LAN1

SNMP Port Information

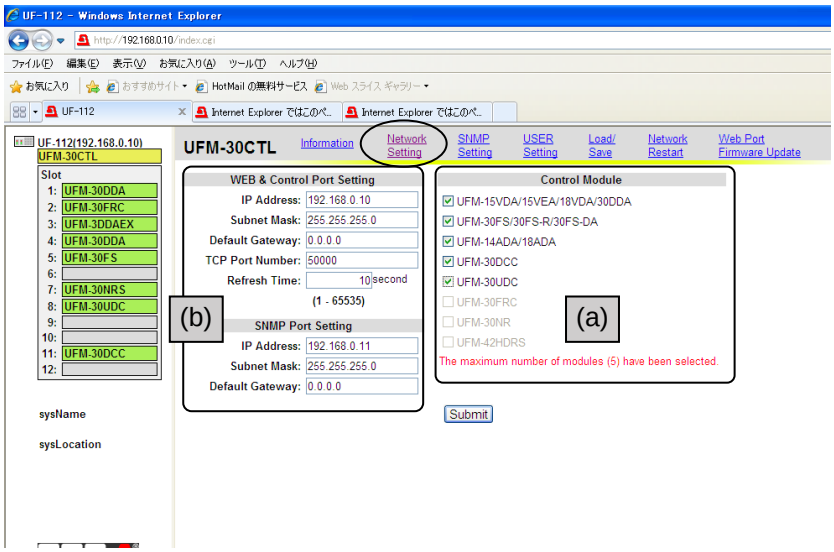
IP Address	IP address for LAN2
Subnet Mask	Subnet mask for LAN2
Default Gateway	Default gateway for LAN2
MAC Address	MAC address for LAN2
Version	Port version for LAN2

FPGA Information

Version	FPGA version

4-3. Module Selection and Network Settings (UF-112)

(1) Open the UFM-30CTL setting window by referring to section 4-1. "Login and Setup."
(2) Click **Network Setting** to go to the Network Settings page.



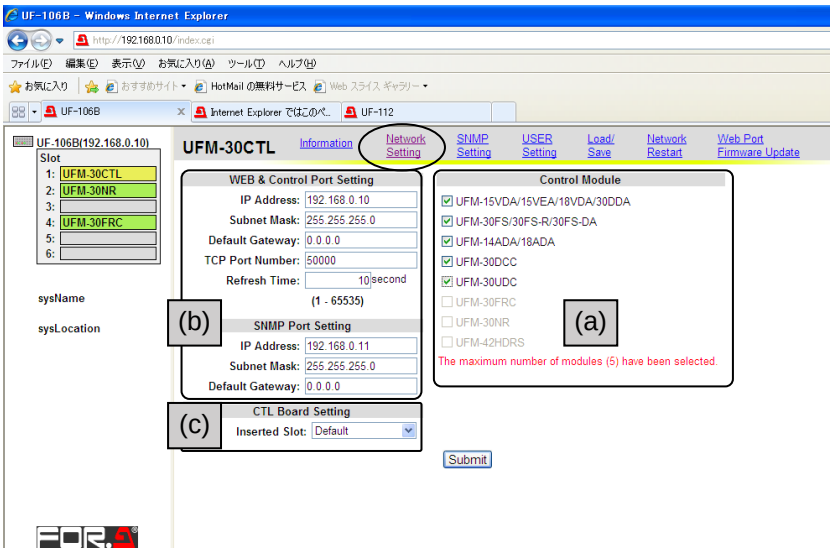
(a) Selecting Modules
Check on module labels (up to 5) under Control Module.

(b) Changing Network Settings (if necessary)
Change the IP address and subnet mask of the currently connected LAN1 port under WEB&Control Port Setting.
Change the IP address and subnet mask of the LAN2 port under SNMP Port Setting.

(3) Click **Submit**.
(4) Restart the UFM frame to apply the change.
(5) Exit the browser.
(6) Reopen the browser and access the UFM-30CTL (using the new IP address if IP address was changed).

4-4. Module Selection and Network Settings (UF-106B)

(1) Refer to section 4-1. "Login and Setup" to display the UFM-30CTL setting page.
(2) Click **Network Setting** to go to the Network Setting page.



(a) Selecting Modules
Check on module labels (up to 5) under Control Module.

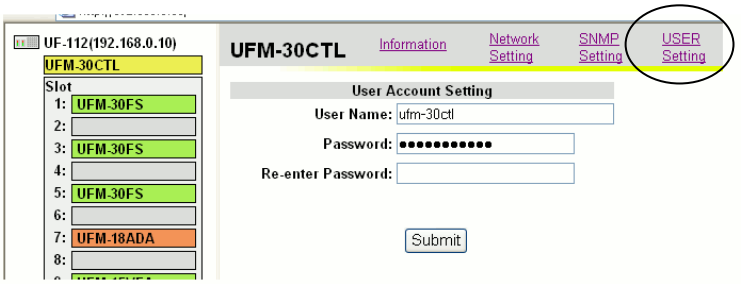
(b) Changing Network Settings (if necessary)
Change the IP address and subnet mask of the currently connected LAN1 port under WEB&Control Port Setting.
Change the IP address and subnet mask of the LAN2 port under SNMP Port Setting.

(c) Specifying the UFM-30CTL Slot Number (UF-106B only, Default: Slot 1)
Enter the slot number into which the UFM-30CTL is installed under CTL Board Setting. Note that the slot number default setting is **1**, even when another module is installed into Slot 1.

(3) Click **Submit**.
(4) Restart the UFM frame to apply the change.
(5) Exit, then reopen the browser, and access the UFM-30CTL web browser setting window using the new IP address to see if the IP address has properly changed.

4-5. Changing User Account

(1) Open the UFM-30CTL setting window by referring to section 4-1. "Login and Setup."
(2) Click **User Account** to go to the User Account page.



(3) Enter a new user name you are going to use. Up to 16 characters can be entered.
(4) Enter a new password. Re-enter the password. Up to 64 characters can be entered.
(5) Click Submit after entering values to confirm the change.
(6) Restart the UFM frame to apply the change.
(7) Exit, then reopen the browser, and access the UFM-30CTL setting page using the new account to see if the account has properly changed.

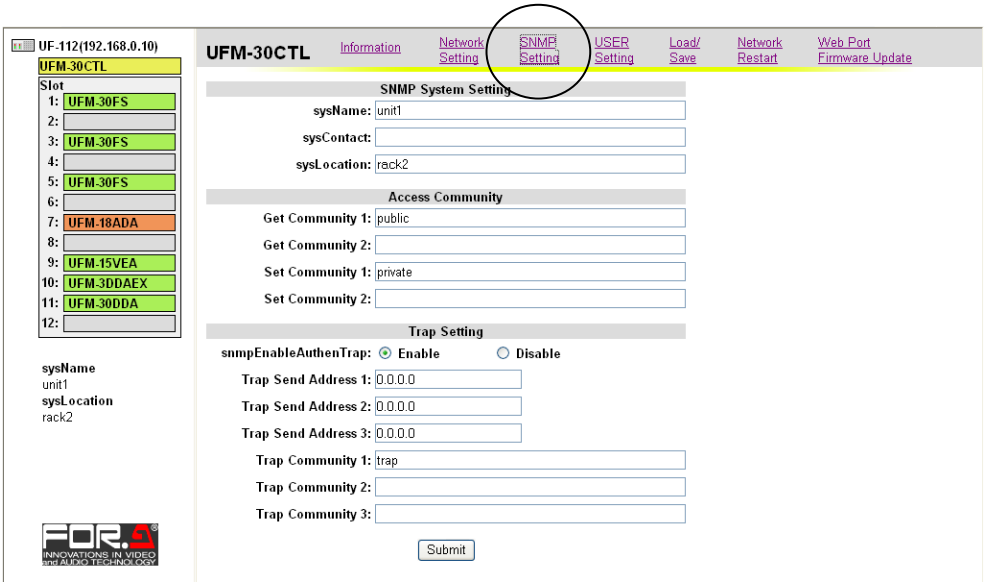
4-6. If You Forgot Your Password or IP Address

If you forgot your password or IP address, the following procedure allows you to reinitialize the system.

(1) Disconnect the LAN1 and LAN2 network cables.
(2) Turn off the UFM-30CTL. Remove the module guard and pull out the UFM-30CTL front module.
(3) Set DIP switches 7 and 8 of S1 to On on the UFM-30CTL front module.
(4) Return the UFM-30CTL front module into the UFM frame.
(5) Turn on the UFM-30CTL and wait for the power indication on the front panel to light.
(6) Turn off the UFM-30CTL again, and remove the front module again.
(7) Set to OFF DIP switches 7 and 8 of S1 that were set to ON in step (3).
(8) Return the UFM-30CTL front module into the UFM frame.
(9) Reattach the module guard.
(10) Turn on the UFM-30CTL and wait for the power indication on the front panel to light.
(11) Repeat menu settings referring to sections 4-1 to 4-5.
(12) Connect the LAN1 and LAN2 network cables.

4-7. Changing SNMP Settings

(1) Open the UFM-30CTL setting window by referring to section 4-1. "Login and Setup."
(2) Click **SNMP Setting** to go to the SNMP Setting page.



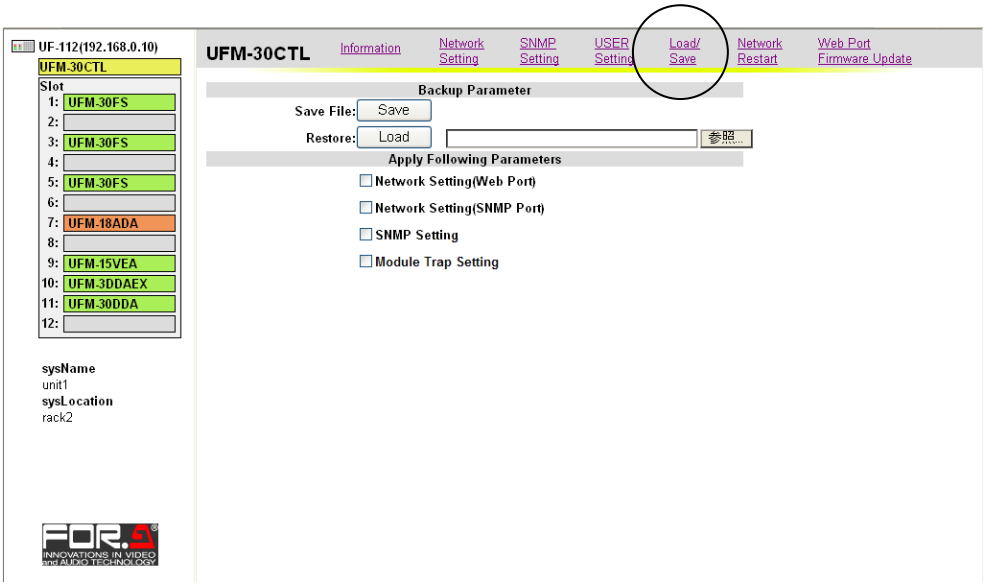
(3) See the table below to make changes.

Setting parameter	Default	Characters (Alphanumeric and symbols)	Description
sysName	---	Up to 255	Name of device
sysContact	---	Up to 255	Information on system administrator.
sysLocation	(---)	Up to 255	Information on system location.
Get Community 1	public	Up to 63	SNMP community name for read access
Get Community 2	---	Up to 63	SNMP community name for read access
Set Community 1	private	Up to 63	SNMP community name for read/write access
Set Community 2	---	Up to 63	SNMP community name for read/write access
snmpEnableAuthenTrap	---	---	Sets to enable/disable traps to be sent when authentication has failed.
Trap Send Address 1	---	---	IP address of SNMP trap server
Trap Send Address 2	---	---	IP address of SNMP trap server
Trap Send Address 3	---	---	IP address of SNMP trap server
Trap Community 1	trap	Up to 63	Community name of trap recipient (for TrapSendAddress1)
Trap Community 2	---	Up to 63	Community name of trap recipient (for TrapSendAddress2)
Trap Community 3	---	Up to 63	Community name of trap recipient (for TrapSendAddress3)

(4) Click **Submit** to confirm changes.
(5) Restart the UFM frame to apply changes.

4-8. Saving or Loading Parameters

(1) Open the UFM-30CTL setting window by referring to section 4-1. "Login and Setup."
(2) Click **Load / Save** to go to the Load / Save page.



◆ Save

The **Save** button allows you to save WEB & Control port setting parameters and SNMP port settings in the Network Setting page, all settings in the SNMP Setting page, and UFM-30CTL module trap settings in the UFM frame.

(1) Click **Save**. The **Download** dialog appears. Then click **Save** on the dialog.
(2) The **Save as** dialog appears. Select a directory into which you wish to save the file and click **Save**. The file will be saved as "**ufm30ctl.dat**." The file name can be changed later, as desired.

◆ Load

The Load button allows you to load the settings selected in the **Apply Following Parameters** area.

(1) Click **Browse**. The **File Selection** dialog appears. Select a file to download.
(2) Check the checkbox(es) for the settings you wish to load in the Apply Following Parameters area. There are Network Setting (Web Port), Network Setting (SNMP Port), SNMP Setting and Module Trap Setting checkboxes.
(3) Click **Load**. The selected settings will be loaded.

IMPORTANT
Do **not** save or load parameter settings from **two or more modules simultaneously** (for example, UFM-30FS and UFM-30FS-DA), in particular, while modules are being controlled through multiple web browser tabs, since doing so may result in data loss or damage.

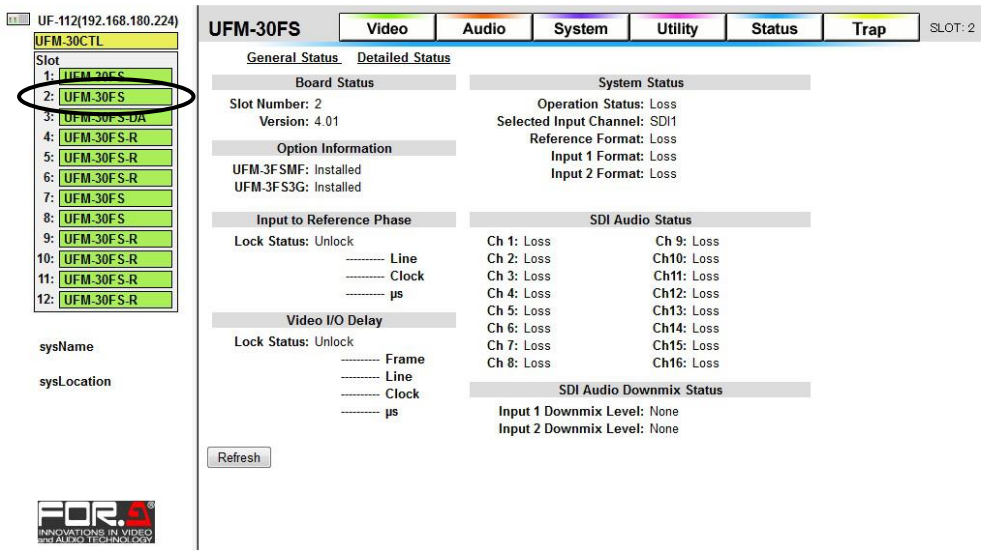
5. Controlling UFM-30FS/FS-R/FS-DA

The UFM-30CTL can control multiple UFM-30FS, UFM-30FS-R and UFM-30FS-DA cards that are installed in the same UFM frame from a web browser on a computer.

> See the UFM-30FS/FS-R/FS-DA Operation Manual for details on selectable functions and setting parameters.

5-1. Module Selection and Page Configuration

(1) Select the **UFM-30FS**, **UFM-30FS-R** or **UFM-30FS-DA** you wish to control in the menu pane on the left edge of the web window.
(2) The Status page for the selected module will be displayed. In the figure below, **UFM-30FS** that is installed in **Slot 2** of UF-112 is selected.

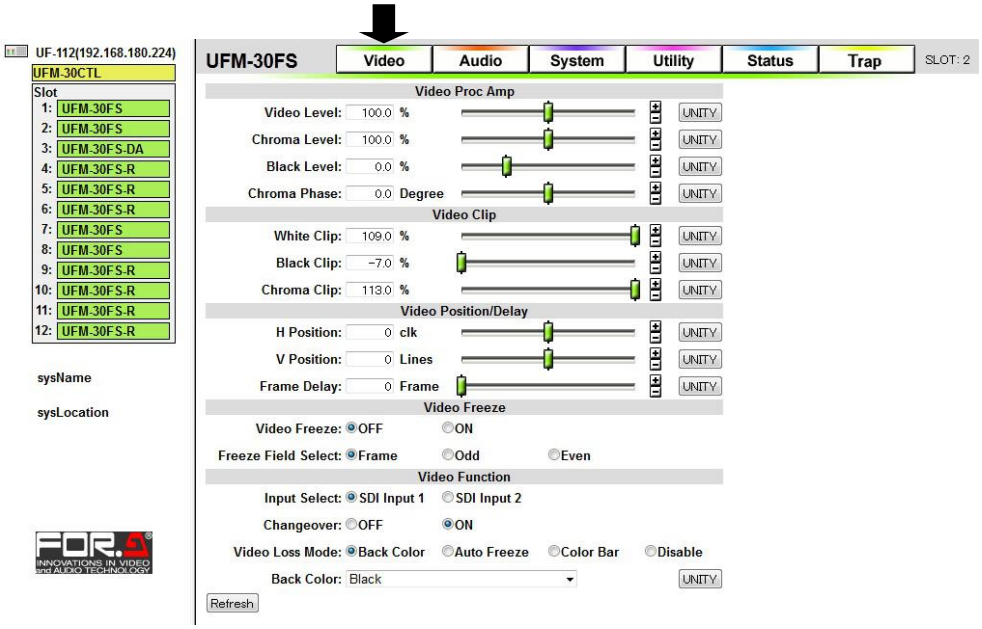


(3) The UFM-30FS/FS-R/FS-DA control window has six categories as shown below. Link buttons that allow you to jump to the corresponding page are provided along the top of the control page.

Button	Setting description
Video	Allows to set video processing settings.
Audio	Allows to map audio inputs to audio outputs.
System	Allows to set up system synchronization and ancillary data.
Utility	Allows to output test signals and save/load event memory data.
Status	Allows to display video, audio and module status data.
Trap	Allows to implement SNMP trap events.

5-2. Video Settings (Video)

Clicking the **Video** button opens the Video page.
This page allows you to adjust video input signals.



Menu item	Default (Unity)	Setting range (Steps)	Description
Video Level	100.0%	0.0 to 200.0% (0.1%)	Allows you to adjust the video level.
Chroma Level	100.0%	0.0 to 200.0% (0.1%)	Allows you to adjust the chroma level.
Setup / Black	0.0%	-7.0 to 20.0% (0.1%)	Allows you to adjust the black level.
Chroma Phase	0.0 Degree	-180.0 to 180.0Degree (0.1°)	Allows you to adjust the chroma phase.
White Clip	109.0%	50.0% to 109.0% (0.1%)	Allows you to specify the highest value of Y signal for clipping.
Black Clip	-7.0%	-7.0% to 50.0% (0.1%)	Allows you to specify the lowest value of Y signal for clipping.
Chroma Clip	113.0%	50.0% to 113.0% (0.1%)	Allows you to specify the highest and lowest of PbPr signal values for clipping.
H Position	0 CLK	(*1)	Allows you to adjust horizontal output video. positioning
V Position	0 Line	(*1) (*2)	Allows you to adjust vertical output video positioning.
Frame Delay	0 Frame	0 to 10 Frame (1Frame) (*2)(*3)	Allows you to adjust the amount of frame delay.
Video Freeze	Off	Off, On	Allows you to manually freeze a frame or field. (*2)
Freeze Field Select	Frame	Frame Odd Even	**Frame**: Enables frame freeze if **Video Freeze** is **On**. **Odd**: Enables field freeze in odd field if **Video Freeze** is **On**. **Even**: Enables field freeze in even field if **Video Freeze** is **On**.(*2)(*4)
Input Select	SDI Input1	SDI Input1 SDI Input2	Allows you to select an input channel. (*5)

Menu item	Default (Unity)	Setting range (Steps)	Description
Changeover	ON	OFF, ON	Automatically replaces input stream if video loss occurs in the selected channel. (*6)
Video Loss Mode	Back Color	Back Color Auto Freeze (*7) Color Bar Disable	Allows you to select the action to be taken when video input is not present.
Back Color	Black	Black Gray Blue	Allows you to select a background display color for when no video input is present.

(*1) Setting range varies depending on format. See the Video Phase Setting Range table in the UFM-30FS/FS-R/FS-DA Operation Manual ("Video Position / Delay" section).

(*2) If Sync Mode is set to **Line Sync** as described in section 5-4, "System Settings (System)." **V Position**, **Frame Delay**, **Freeze ON/OFF**, and **Freeze Field Select** are disabled.

(*3) If the video is set to freeze by setting **Freeze ON/OFF** to **ON** or **Video Loss Mode** to **Auto Freeze**, the **Frame Delay** setting has no effect.

(*4) **Freeze Field Select** cannot be set if the system operates in 720/59p or 720/50p mode.

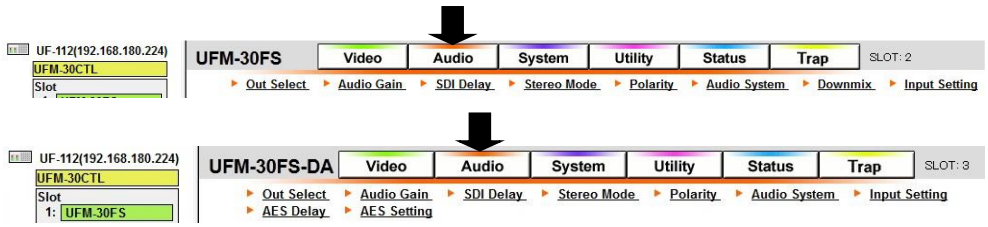
(*5) **Input Select** cannot be set on UFM-30FS-DA modules.

(*6) If **Changeover** is set to **ON**, the **Input Select** setting automatically switches to the other setting when signal loss is detected. The setting will not return to the former setting even after the original input is recovered. In such case, manually reset the **Input Select**.
Changeover is disabled while **Bypass** is enabled. (UFM-30FS-R).
Changeover is not available on UFM-30FS-DA.

(*7) The video freeze will be released if proper video input is recovered or **Video Loss Mode** is set to other than **Auto Freeze**.
If **SyncMode** is changed to **Line Sync**, the system will display **Back Color**, even though **Video Loss Mode** is set to **Auto Freeze**.

5-3. Audio Settings (Audio)

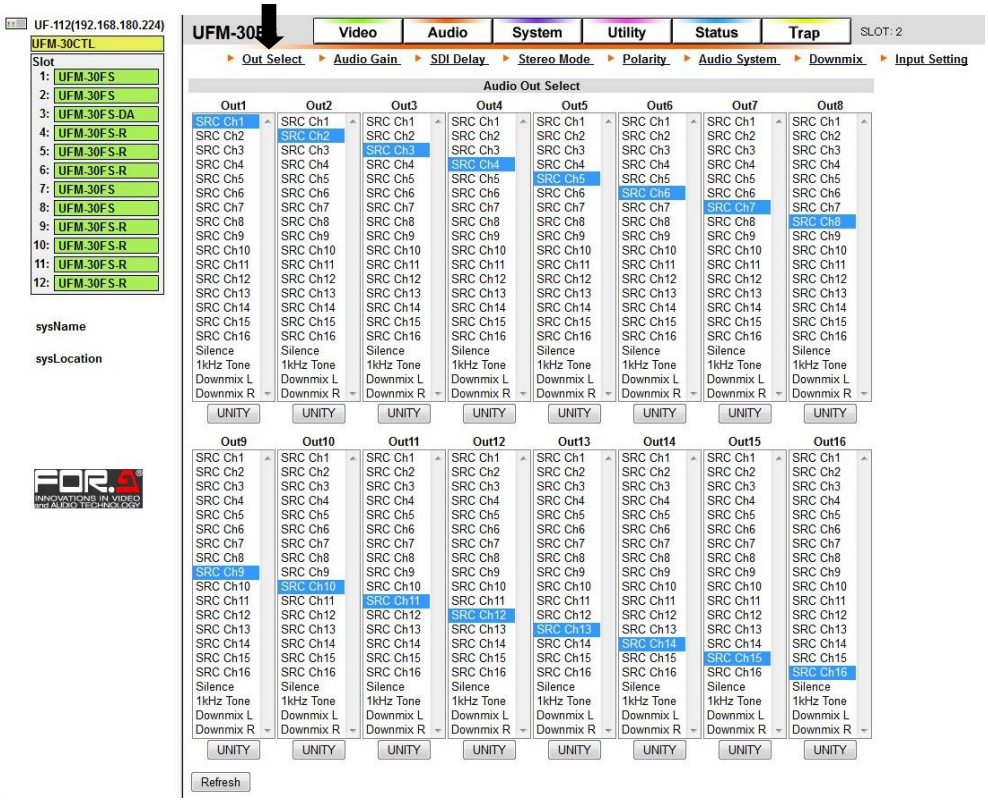
The Audio menu consists of multiple pages. Clicking the **Audio** button will display links to Audio submenus beneath the link buttons including the Audio button.
In those submenu pages, routing, gain, delay and stereo mode for audio can be set.
Clicking the Audio button will also open the Audio System page.



FS/FS-R	FS-DA	Submenu	Description
✔	✔	Out Select	Allows you to select output audio settings.
✔	✔	Audio Gain	Allows you to specify audio output gain settings.
✔	✔	SDI Delay	Allows you to specify audio output delay settings.
✔	✔	Stereo Mode	Allows you to select audio modes.
✔	✔	Polarity	Allows you to set audio output polarity settings.
✔	✔	Audio System	Allows you to change audio system settings.
✔		Downmix	Allows you to set up downmixing.
✔	✔	Input Setting	Allows you to set audio input settings.
	✔	AES Delay	Allows you to set AES audio output delay.
	✔	AES Setting	Allows you to manage multiple AES inputs and outputs.

5-3-1. Audio Output Selection (Out Select)

Click **Out Select** among the Audio submenu links displayed beneath the link buttons. The Audio-Out Select page will be displayed. This page allows you to set audio routing. Select an audio signal radio button for each channel.



Menu item	Default	Setting range	Description
Out1	SRC Ch1	SRC Ch1 to SRC Ch16 Silence Tone Downmix L (*1) Downmix R (*1)	Allows you to select an audio signal for each audio output channel. **SRC Ch1 to SRC Ch16**: Selects a signal from internal buses (in the sampling rate converter circuit). **Silence**: Outputs a mute signal. **Tone**: Outputs the internally generated tone signal. **Downmix L**: Downmixed signal (L channel) **Downmix R**: Downmixed signal (R channel)
Out2	SRC Ch2		
Out3	SRC Ch3		
Out4	SRC Ch4		
Out5	SRC Ch5		
Out6	SRC Ch6		
Out7	SRC Ch7		
Out8	SRC Ch8		
Out9	SRC Ch9		
Out10	SRC Ch10		
Out11	SRC Ch11		
Out12	SRC Ch12		
Out13	SRC Ch13		
Out14	SRC Ch14		
Out15	SRC Ch15		
Out16	SRC Ch16		

(*1) Unavailable on UFM-30FS-DA modules

If input audio is non-PCM, any two improperly selected audio channels for a L/R stereo pair will be automatically changed to a proper stereo pair that includes the channel selected for the smaller odd-numbered output such as Out1.

e.g. 1) If SRC Ch7 is selected for Out 1 and SRC Ch8 is selected for Out 2:
The selected channels form a proper L/R stereo pair. Therefore, the channels will be set as selected.

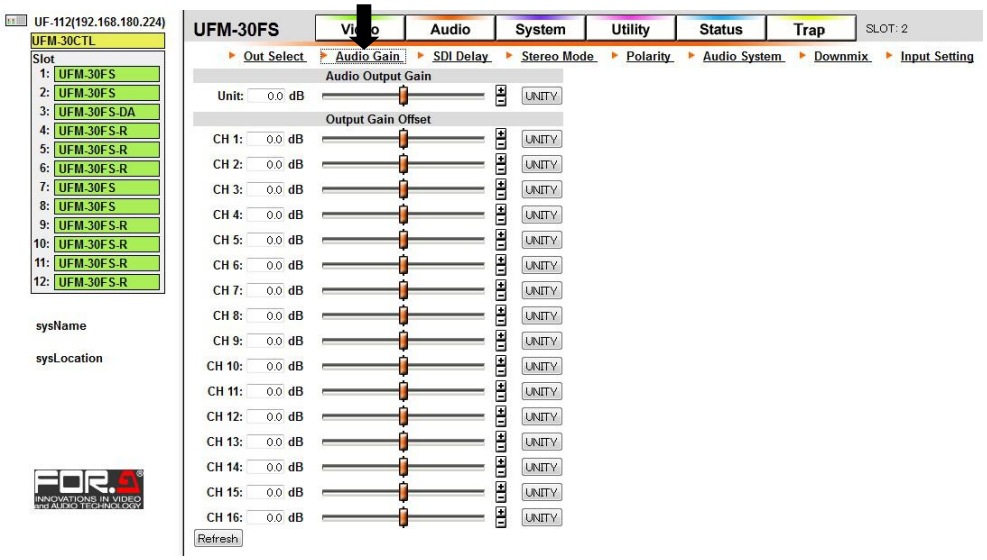
e.g. 2) If SRC Ch7 is selected for Out 1 and SRC Ch10 is selected for Out2:
The selected channels do not form a proper L/R stereo pair. The channel selected for Out1 has priority. Therefore, the channels will be set to a stereo pair that includes SRC Ch7; i.e., SRC Ch7 for Out1 and SRC Ch8 for Out2.

e.g. 3) If SRC Ch6 is selected for Out1 and SRC Ch9 is selected for Out2:
The selected channels do not form a proper L/R stereo pair. The channel selected for Out1 has priority. Therefore, the channels will be set to a stereo pair that includes SRC Ch5; i.e., SRC Ch5 for Out1 and SRC Ch6 for Out2.

If the selected channel and actual output channel are different while non-PCM audio is being processed, an asterisk (*) and the channel number of the actual output will be displayed in the menu window. However, the automatic changes will not be saved. Therefore, when the audio input returns to PCM audio, output channels are set back to the settings in the menu.

5-3-2. Audio Output Gain (Audio Gain)

Click **Out Gain** among the Audio submenu links displayed beneath the link buttons. The Audio-Out Gain page will be displayed. This page allows you to set gain for output audio signals.

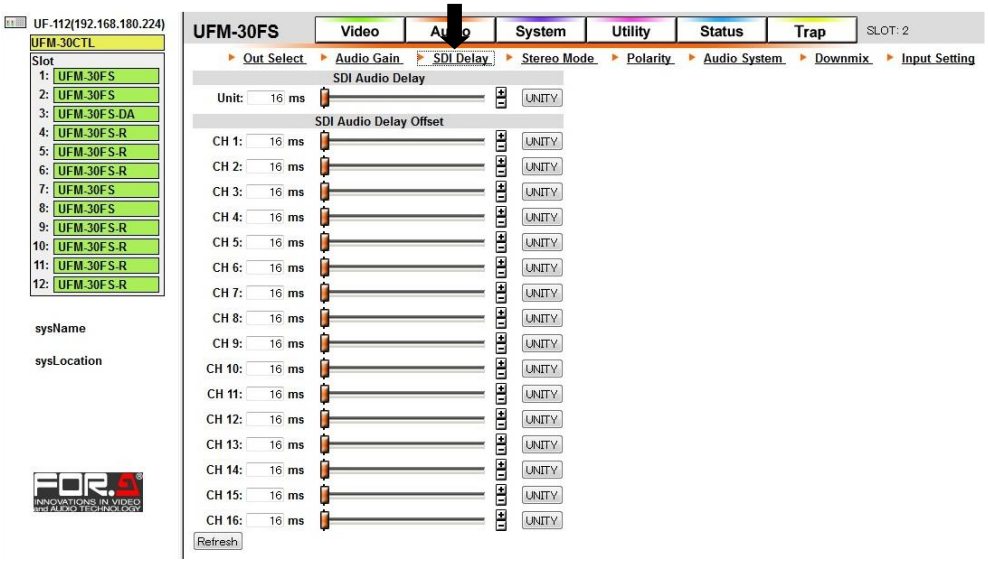


Menu item	Default (Unity)	Setting range (Steps)	Description
Unit	0.0 dB	-20.0 to +20.0 dB (0.1 dB)	Allows you to set a common gain for all output audio signals.
CH1 to CH16	0.0 dB	-20.0 to +20.0 dB (0.1 dB)	Allows you to finely adjust the set gain for all output audio signals respectively for each channel.

Adjust gain for Unit first, then for individual channels if needed.
Changing the value for Unit will change the values of all channels while maintaining the differences between the channels. If the total value exceeds the range -20.0 dB to +20.0 dB, the setting will automatically reset to the minimum or maximum allowed value.
Non-PCM audio will be automatically bypassed.

5-3-3. Audio Output Delay (SDI Delay)

Click **Out Delay** among the Audio submenu links beneath the link buttons. The Audio-Out Delay page will be displayed. This page allows you to set delay for output audio signals.



Menu item	Default (Unity)	Setting range (Steps)	Description
Unit	16 ms	2 to 1000 ms (1 ms)	Allows you to set a common delay for all output audio signals.
CH1 to CH16	16 ms	2 to 1000 ms (1 ms)	Allows you to finely adjust the set delay for all output audio signals respectively for each channel.

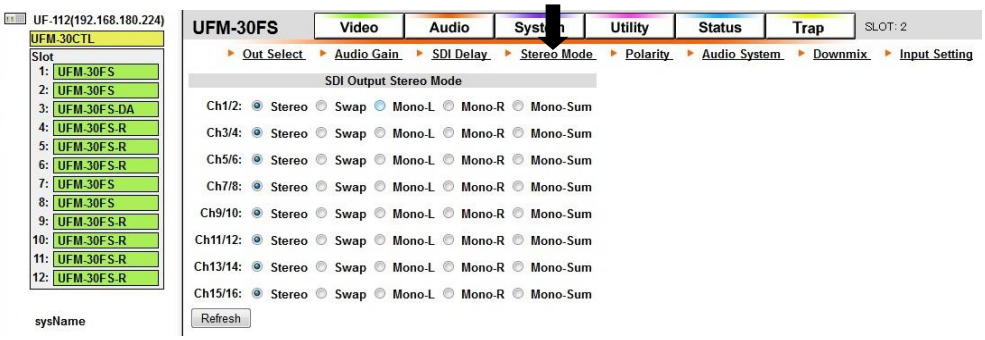
If the total value exceeds the range 2 to 1,000 msec, the setting will automatically reset to the minimum or maximum allowed value.

If different values are set for a L/R stereo pair (such as CH1 and CH2) of non-PCM audio, the R channel value will automatically adjust to match that of L channel.

The minimum value is 2 msec due to internal processing delay.
To maintain lip sync, set the delay value referring to the **Video I/O Delay** value in section 5-6-1. "General Status."

5-3-4. Audio Output Mode (Stereo Mode)

Click **Stereo Mode** among the Audio submenu links beneath the link buttons. The Audio Stereo Mode page will be displayed. This page allows you to select audio output modes.

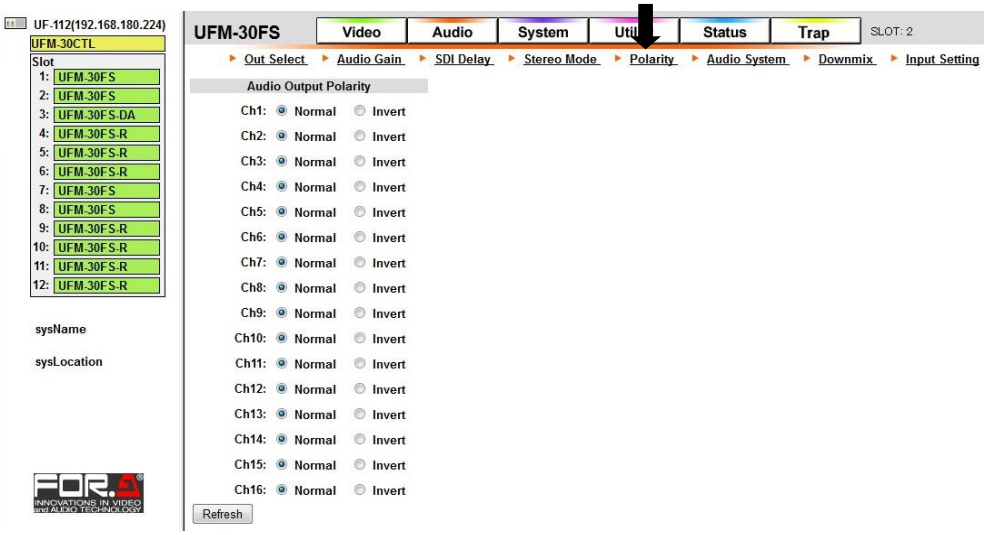


Menu item	Default	Setting range	Description
CH1/2 to CH15/16	Stereo	Stereo Swap Mono-L Mono-R Mono-SUM	Allows you to select an output mode from stereo and mono modes for each stereo pair individually. **Stereo**: Outputs the L audio input signal to L and the R audio input signal to R. **Swap**: Outputs the L audio input signal to R and the R audio input signal to L. **Mono-L**: Outputs the L audio input signal to both L and R. **Mono-R**: Outputs the R audio input signal to both L and R. **Mono-Sum**: Outputs half the sum of L and R audio input signals.

Non-PCM audio will be automatically bypassed.

5-3-5. Audio Polarity (Polarity)

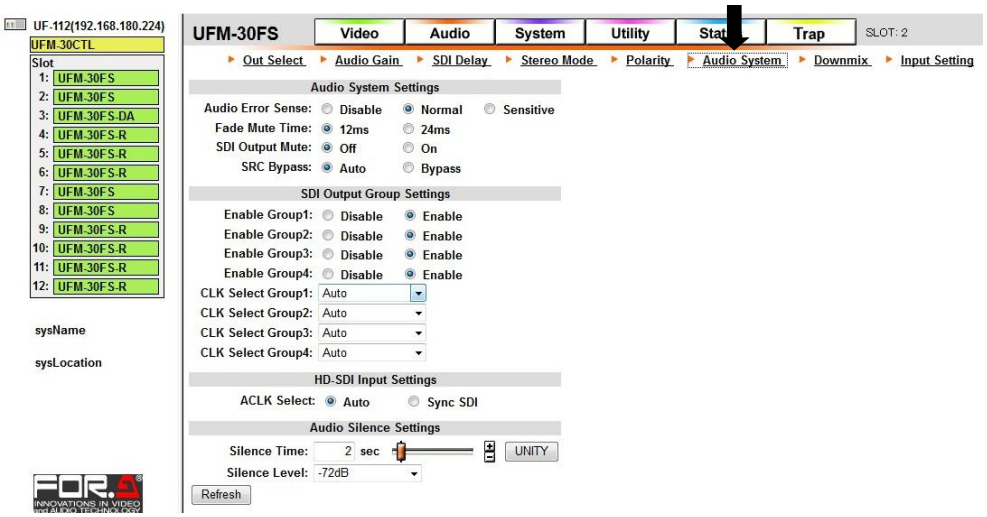
Click **Out Polarity** among the Audio submenu links beneath the link buttons. The Audio-Out Polarity page will be displayed. This page allows you to set polarity for each audio channel.



Menu item	Default	Setting range	Description
CH1 to CH16	Normal	Normal Invert	Allows you to individually set the audio output polarity for each channel.

5-3-6. Audio System Settings (Audio System) (FS/FS-R)

Click **Audio System** among the Audio submenu links beneath the six link buttons. The Audio-Audio System page will be displayed. This page allows you to set fade and mute, as well as SDI audio settings.



Menu item	Default (Unity)	Setting range (Steps)	Description
Audio Error Sense	Normal	Disable Normal Sensitive	The modules can detect audio status changes due to input signal switching, etc. and automatically fade out (*1) and mute audio. This menu item enables/disables the Fade/Mute function and sets the detection level. **Disable**: Disables the Fade/Mute function. Do not use this setting under normal conditions. **Normal**: Fades and mutes audio if SDI signal, ADP or DBN changes are detected. Use this setting under normal conditions. **Snsitive (Sensitive)**: Fades and mutes audio if SDI signal, ADP DBN, channel status, or EDP (SD-SDI only) changes are detected.
Fade Mute Time	12ms	12ms 24ms	Allows you to set the audio recovery time.
SDI Output Mute	Off	Off, Mute	Allows you to mute all SDI audio signals at once.
SRC Bypass	Auto	Auto Bypass	Allows you to enable/disable the audio group SRC bypass. **Auto**: All audio groups (channels) automatically go through the SRC, if a non-PCM audio channel is not included in the audio group. **Bypass**: All audio channels bypass the SRC. To use non-synchronized audio by bypassing the SRC, set to **Bypass**. In such cases, also set the reference standard under **SDI OUT CLK Select Group1-4** below.

(*1) The fade time is automatically set according to the audio delay setting (SDI AUDIO Delay).

NOTE
Set Audio Error Sense to **Normal** under normal conditions. Use **Disable** only under limited circumstances such as when audio is interrupted or noise occurs. Refer to the UFM-30FS/FS-R/FS-DA operation manual for further details.

Menu item	Default	Setting range	Description
SDI Output Enable Group1 to SDI Output Enable Group4	Enable	Disable Enable	Enables/disables audio embedding to SDI Group1-4. (*1) Audio cannot be embedded to SD-SDI **Group4** regardless of the setting.
SDI Output CLK Select Group1	Auto	Auto REF Lock Ch1/2 Ch3/4	Allows you to select an audio clock signal to be used for each SDI audio group.(*2) Normally, select **Auto**. **Auto**: If a non-PCM audio channel is included in a group, this channel clock is used as the group clock (asynchronous output). If all channels in a group are PCM, the **REF Lock** setting is applied. **REF Lock (Ref Locked)**: Used to properly output PCM audio. **Ch1/2 to Ch15/16**: Used to properly output non-PCM audio (asynchronous). Specify the non-PCM audio channel pair.
SDI Output CLK Select Group2		Auto REF Lock Ch5/6 Ch7/8	
SDI Output CLK Select Group3		Auto REF Lock Ch9/10 Ch11/12	
SDI Output CLK Select Group4		Auto REF Lock Ch13/14 Ch15/16	
HD-SDI Input Settings - ACLK Select	Auto	Auto Sync SDI	Sets the embedded audio receiving clock for HD-SDI input. **Auto:** Uses the audio clock phase information in HD-SDI embedded audio and de-embeds 4 audio groups from SDI streams. Synchronous and asynchronous audio de-embedding is possible for each group. (*3) If there is an error in the information or signal, audio groups are automatically processed as synchronous audio. **Sync SDI:** Does not use the audio clock phase information in HD-SDI embedded audio and all audio groups are always processed as synchronous audio. (*4)
Silence Time	2 sec	1-10 sec	Allows you to set the time required to determine that audio is silent. If an audio feed has gone silent and the time set here has passed, the audio stream is considered to be silent. (*5)
Silence Level	-72 dB	-72 dB -66 dB -60 dB -54 dB -48 dB	Allows you to set the level required to determine that the audio stream is silent. (*5)

(*1) If **SDI HANC/VANC Mode** is set to **Through**, **SDI Output Enable** is disabled and all ancillary data will pass through without being processed.

(*2) Embedded audio signals are divided into four-channel groups: Group1 (ch1-ch4), Group2 (ch5-ch8), Group3 (ch9-ch12), and Group4 (ch13-ch16). Channels in each group share the same audio clock rate (48 kHz).
PCM audio can be genlocked to the reference signal in the built-in sampling rate converter (SRC) and synchronized with video. Non-PCM audio is, however, bypassed through the SRC.
If **SDI Out CLK Select Group** is set to **Auto** for an audio group and a non-PCM audio channel is included in the group, all four channels in the group bypass the SRC so that audio signals can output properly (although asynchronous).

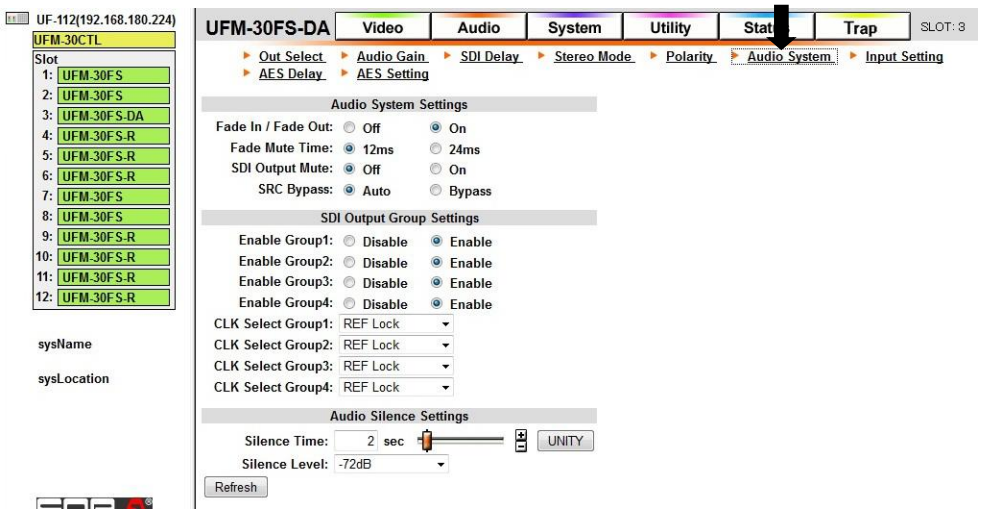
(*3) SD-SDI audio signals are always processed as reference locking signal regardless of the menu selection.

(*4) Use this function only when audio is improperly output and non-PCM audio is not input.

(*5) Silence is detected based on this menu setting and displayed under **SDI Audio Input Status** in the **General Status** page (see section 5-6-1).

5-3-7. Audio System Settings (Audio System) (FS-DA)

Click **Audio System** among the Audio submenu links beneath the six link buttons. The Audio-Audio System page will be displayed. This page allows you to set fade and mute, as well as SDI audio settings.



Menu item	Default	Setting range (Steps)	Description
Fade In/ Fade Out	On	Off On	**On**: Fades out and mutes audio (as least 10 msec) when audio error is detected. (*1) **Off**: Mutes audio (as least 10 msec) without fading when audio error is detected.
Fade Mute Time	12ms	12ms, 24ms	Allows you to set the audio recovery time.
SDI Output Mute	Off	Off, Mute	Allows you to mute all SDI audio signals at once.
SRC Bypass	Auto	Auto Bypass	Allows you to enable/disable the audio group SRC bypass. **Auto**: All audio groups (channels) automatically go through the SRC, if a non-PCM audio channel is not included in the audio group. **Bypass**: All audio channels bypass the SRC. To use non-synchronized audio by bypassing the SRC, set to **Bypass**. In such cases, also set the reference standard under **SDI OUT CLK Select Group1-4** below.

(*1) The fade time is automatically set according to the audio delay setting (SDI AUDIO Delay or AES Audio Delay).

Menu item	Default (Unity)	Setting range (Steps)	Description
SDI Output Enable Group1 to SDI Output Enable Group4	Enable	Disable Enable	Enables/disables audio embedding to SDI Group1-4. (*1) Audio cannot be embedded to SD-SDI **Group4** regardless of the setting.
SDI Output CLK Select Group1	REF Lock	Auto, REF Lock, Ch1/2, Ch3/4	Allows you to select an audio clock signal to be used for each SDI audio group.(*2) **REF Lock (Ref Locked)**: Used to properly output PCM audio. **Ch1/2 to Ch15/16**: Used to properly output non-PCM audio (asynchronous). Specify the non-PCM audio channel pair.
SDI Output CLK Select Group2		Auto, REF Lock, Ch5/6, Ch7/8	
SDI Output CLK Select Group3		Auto, REF Lock, Ch9/10, Ch11/12	
SDI Output CLK Select Group4		Auto, REF Lock, Ch13/14, Ch15/16	

Silence Time	2 sec	1-10 sec	Allows you to set the time required to determine that audio is silent. If audio feed has gone silent and the time set here has passed, the audio stream is considered to be silent. (*3)
Silence Level	-72 dB	-72 dB -66 dB -60 dB -54 dB -48 dB	Allows you to set the level required to determine that the audio stream is silent. (*3)

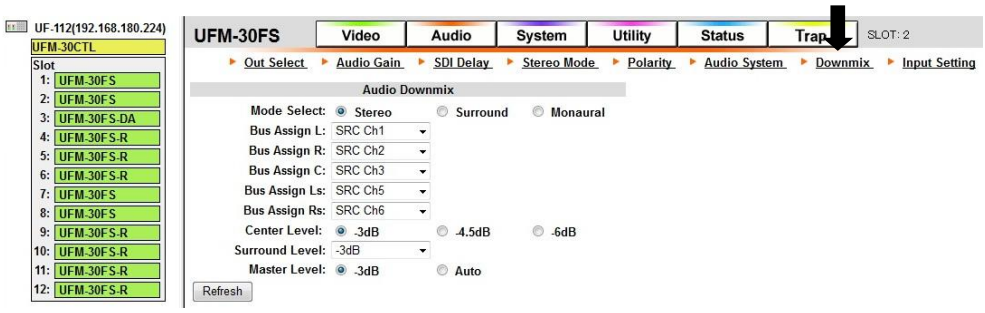
(*1) If **SDI HANC/VANC Mode** is set to **Through**, **SDI Output Enable** is disabled and all ancillary data will pass through without being processed.

(*2) Embedded audio signals are divided into four-channel groups: Group1 (ch1-ch4), Group2 (ch5-ch8), Group3 (ch9-ch12), and Group4 (ch13-ch16). Channels in each group share the same audio clock rate (48 kHz).
PCM audio can be genlocked to the reference signal in the built-in sampling rate converter (SRC) and synchronized with video. Non-PCM audio is, however, bypassed through the SRC.
If **SDI Out CLK Select Group** is set to **Auto** for an audio group and a non-PCM audio channel is included in the group, all four channels in the group bypass the SRC so that audio signals can output properly (although asynchronous).

(*3) Silence is detected based on this menu setting and displayed under **SDI Audio Input Status** in the **General Status** page (see section 5-6-1).

5-3-8. Audio Downmix Setting (Downmix) (FS/FS-R)

This menu is unavailable on UFM-30FS-DA.



Menu item	Default	Setting range	Description
Mode Select (*1)	Stereo	Stereo Surround Monaural	Allows you to select the downmix mode.
Bus Assign L (*2)	SRC Ch 1	SRC Ch1 - SRC Ch16	Selects a source channel (L) for downmixing.
Bus Assign R (*2)	SRC Ch 2		Selects a source channel (R) for downmixing.
Bus Assign C (*2)	SRC Ch 3		Selects a source channel (C) for downmixing.
Bus Assign Ls (*2)	SRC Ch 5		Selects a source channel (Ls) for downmixing.
Bus Assign Rs (*2)	SRC Ch 6		Selects a source channel (Rs) for downmixing.
Center Level	-3 dB	-3 dB -4.5 dB -6 dB	Allows you to specify the C (Center channel) level. Choose -3 dB if you want to set the Center channel output level to the same as the level before downmixing. If audio volume seems louder after the center channel was mixed to the left and right channels in a downmix, choose -4.5 dB or -6 dB.

Surround Level	-3 dB	-3 dB -6 dB -9 dB 0 Auto	Allows you to specify the level of Ls/Rs (Surround channels).If set to 0 (-∞ dB), the audio source is not mixed to these channels. If set to AUTO, the level is automatically set by referring to "Current Downmix" (*3) in the ancillary data. (*4)
Master Level	-3 dB	-3 dB Auto	Allows you to specify the overall level of downmixed signals. If set to **AUTO**, the DownMIX **Master Level** varies based on the **Mode Select** and **Surround Level** settings. (*5)

(*1) See "Block Diagram for Downmixing" in the UFM-30FS/FS-R/FS-DA operation manual for further details on downmix mode.

(*2) If audio signals are not found in the channels selected under **Bus Assign-L** and **Bus Assign-R**, **DWNMIXL** and **DWNMIXR** in the Out Select page (see section"5.3.1) are automatically muted.
If an overlap occurs under the source channel selection or non-PCM audio is selected, an asterisk (*) is shown to indicate that the related channel is disabled. When an asterisk (*) is displayed, the output is muted even when **DWNMIXL** or **DWNMIXR** is selected in the Out Select page.
When **Bypass** is selected under **SRC Bypass** in the Audio System page (see section 5.3.6) or a non-PCM audio channel is included in an audio group, all channels in the audio group bypass the SRC. Therefore, do not choose a channel for the downmix source if a non-PCM channel is included in the same group. Otherwise, downmixing may not be properly performed.

(*3) "Current Downmix" and "Current Audio Mode" are included in the ancillary data compliant with ARIB STD-B39 (the inter-stationary control data).

(*4) The level remains unchanged when Surround Mix is set to Auto and "Current Downmix" data is not found in the ancillary data. The level automatically resets to -3 dB if any cached data is not found such as at startup. The "Current Downmix" data is monitored and displayed at Input 1 Down Mix Level and Input 2 Down Mix Level on the Status page (see section 5.6).

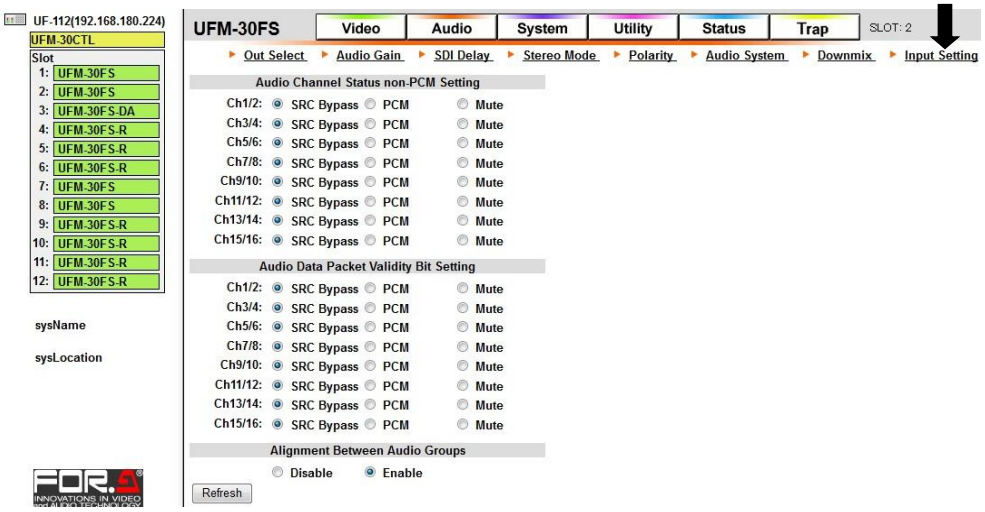
(*5) The Master level is set as shown in the table below when set to **AUTO**.

		Surround Level			
		-3 dB	-6 dB	-9 dB	0 (-∞ dB)
Mode Select	Stereo	Approx. -7.7 dB	Approx. -6.9 dB	Approx. -6.3 dB	Approx. -4.6 dB
	Surround	Approx. -9.9 dB	Approx. -8.7 dB	Approx. -7.7 dB	Approx. -4.6 dB
	Monaural	Approx. -12.9 dB	Approx. -12.0 dB	Approx. -11.4 dB	Approx. -9.5 dB

5-3-9. Audio Input Setting (Input Setting) (FS/FS-R)

IMPORTANT

Use **Audio Input Setting** only when a malfunction such as noisy or muted output occurs. **Do not change** this setting when audio signals are **properly output.** See "UFM-30FS/FS-R/FS-DA Operation Manual" for details.



Menu item	Default	Setting range	Description
Audio Channel Status non-PCM Setting Ch1/2 - Ch15/16	SRC Bypass	SRC Bypass PCM Mute	This setting is effective when the Channel Status **non-PCM flag** in an SDI input audio feed is set to "**1**." (*1) Settings are applied to each stereo pair. **SRC BYP**: Audio channels are processed as non-PCM, SRC is bypassed (*2) and asynchronous clocking is set to **SDI Out CLK Select**. (*3) **PCM**: Audio channels are processed as PCM (normal audio) and go through SRC(*2). **SDI Out CLK Select** is set to **Ref Locked**. (*3) **MUTE**: Audio channels are set to silent. (*4)
Audio Data Packet Validity Bit Setting Ch1/2 - Ch15/16	SRC Bypass	SRC Bypass PCM Mute	This setting is effective when the **Validity Bit flag** in an SDI input audio is set to "**1**." (*5) Settings are applied to each stereo pair. **SRC BYP**: Audio channels are processed as non-PCM, SRC is bypassed (*2) and asynchronous clocking is set to **SDI Out CLK Select**. (*3) **PCM**: Audio channels are processed as PCM (normal audio) and go through SRC(*2). **SDI Out CLK Select** is set to **Ref Locked**. (*3) **MUTE**: Audio channels are set to silent. (*4)
Alignment Between Audio Groups	Enable	Enable Disable	**Enable**: Enables phase alignment among audio groups. (Normal Setting) (*6) **Disable**: Disables phase alignment among audio groups.

(*1) Check the **nonPCM flag** value under **Channel Status nonPCM Flag** in the **Detailed Status** page. (See section 5-6-2. "Embedded Audio Status".)

(*2) If **SRC Bypass** is set to **Auto**. (See section 5-3-6.)

(*3) If **SDI Output CLK Select** is set to **Auto**. (See section 5-3-6).

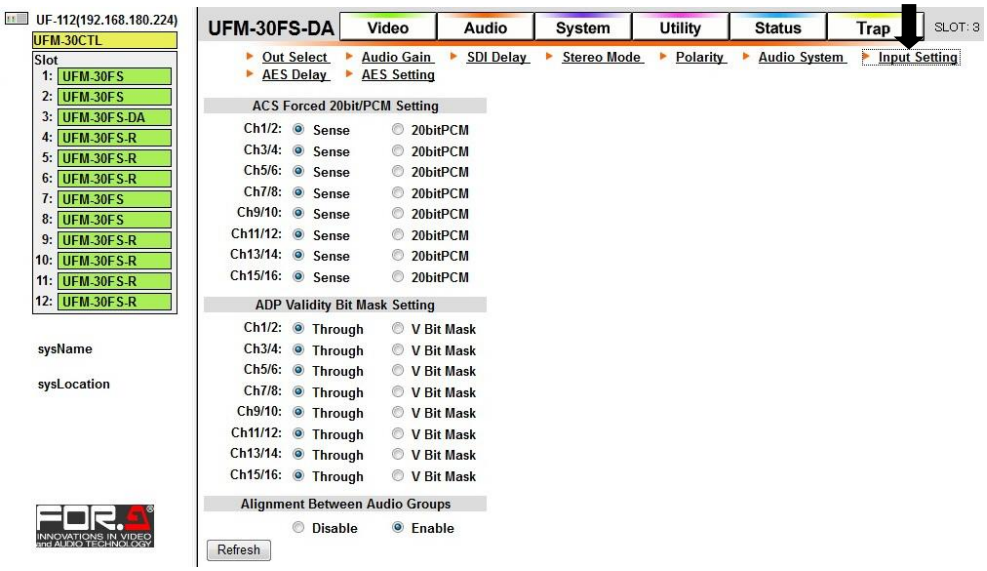
(*4) If **Audio Err Sense** is set to **Disable**, **Mute** is ineffective. (See section 5-3-6).

(*5) Check the **Validity Bit flag** value under **Data Packet Validity Bit Status** on the **Detailed Status** page. (See section 5-6-2. "Embedded Audio Status".)

(*6) Note that when changing the setting from **Disable** to **Enable**, to align all audio group phases, the sound is briefly muted.

5-3-10. Audio Input Setting (Input Setting) (FS-DA)

IMPORTANT
Use Audio Input Setting only when a malfunction such as noisy or muted output occurs. **Do not change** this setting when audio signals are **properly output.** See "UFM-30FS/FS-R/FS-DA Operation Manual" for details.

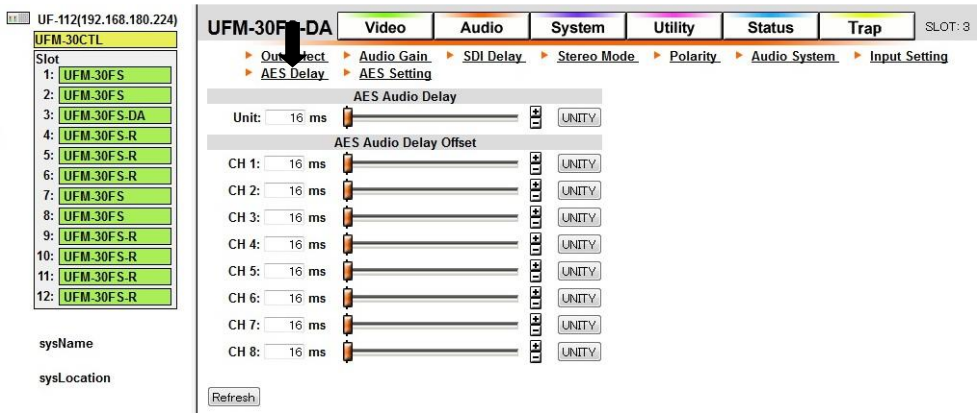


Menu item	Default	Setting range	Description
ACS Forced 20bit/PCM Setting Ch1/2 -Ch15/16 (*1)	Sense	Sense 20 bit/PCM	**Sense**: Detects status of each embedded audio channel input. (Normal Setting) **20bit/PCM**: Forces channel status of embedded audio input to be set to 20 bit, PCM.
ADP Validity Bit Mask Setting Ch1/2 -Ch15/16 (*2)	Through	Through VbitMask	**Through**: Processes audio signals based on the Validity Bit in input channels of the embedded audio. (Normal Setting) **V(Validity)bitMask**: Masks (Ignores) the real Validity Bit value in input channels of the embedded audio and forces the Validity Bit to be taken as valid for audio processing.
Alignment Between Audio Groups	Enable	Enable Disable	**Enable**: Enables phase alignment among audio groups. (Normal Setting) **Disable**: Disables phase alignment among audio groups.

(*1) The UFM-30FS-DA processes audio based on the Audio Channel Status (ACS) value added to audio. If the Audio Channel Status is incorrect, audio may be incorrectly processed In such case, set this item to **20bit/PCM** to pass audio through properly.

(*2) The UFM-30FS-DA determines audio data validity using the Validity Bit (V Bit). If the Validity Bit is incorrect, audio may be incorrectly processed. In such case, set this item to **VbitMask** to pass through audio properly.

5-3-11. AES Audio Output Delay Settings (AES Delay) (FS-DA)



IMPORTANT
The AES Delay menu page is available only while AES audio is being received. In **AES Output** mode, adjust the AES audio delay using **SDI Audio Delay ch1-ch8**. (See section 5-3-3.) Note that, in such case, the same delay value is applied to both the SDI audio and AES audio.

Menu item	Default	Setting range (Steps)	Description
Unit	16 ms	+2 to +1000 ms (1 ms)	Allows you to apply a common AES audio delay to all AES output channels.
CH 1 to CH 16	16 ms	+2 to +1000 ms (1 ms)	Allows you to adjust the delay for each channel by adding the adjustments to AES Audio Delay Unit.

The total audio delay equals the **AES Audio Delay Offset** value, which is calculated by referring to **AES Audio Delay Unit**. If the total value exceeds the range 2 to 1,000 msec, the value automatically resets to the minimum or maximum allowed value. The minimum value is 2 msec including internal processing delay.

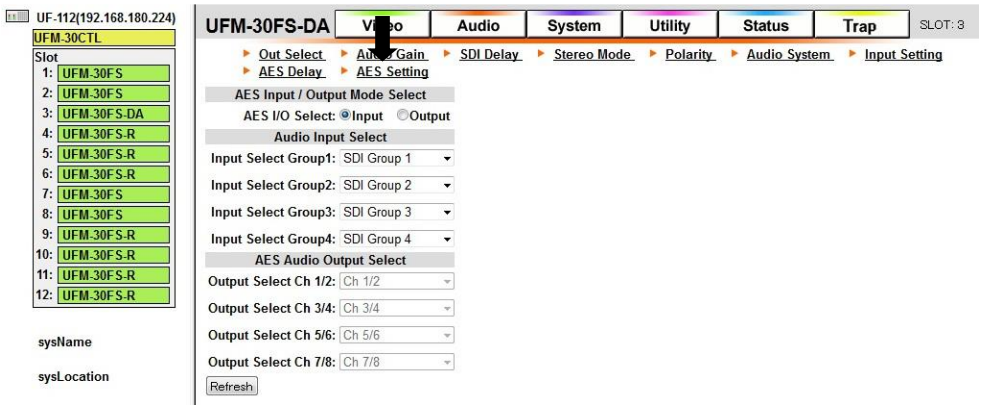
If different values are set for an L/R stereo pair (such as ch1 and ch2) of non-PCM audio, the R channel value will automatically adjust to match that of channel L.

To maintain lip sync, see the value of **80-07 Video I/O Delay**.

An error message "AES Output mode selected" appears when any attempt is made to change **AES Audio Delay** in **AES Output** mode. The values set in **AES Input** mode are stored in the internal memory.

If **AES Audio Delay Unit** is changed, the delay intervals of AES audio channels change accordingly, maintaining the differences among the channels. If the total value exceeds the range 2 to 1,000 msec, an asterisk (*) appears and it automatically resets to the minimum or maximum allowed value.

5-3-12. AES Audio Source Selection (AES Setting) (FS-DA)



Menu item	Default	Setting range	Description
AES I/O Select	Input	Input Output	Allows you to select AES Input or AES output. **Input**: AES 4 inputs (8 channels) are available. **Output**: AES 4 outputs (8 channels) are available.

◆ **If Input is selected:**

Menu item	Default	Setting range	Description
Audio Input Select Group1	SDI Group1	SDI Group1 AES Ch1-4 AES Ch5-8	Allows you to select 16 channels into 4 groups from 16 channels of embedded audio and 8 channels of AES audio.
Audio Input Select Group2	SDI Group2	SDI Group2 AES Ch1-4 AES Ch5-8	
Audio Input Select Group3	SDI Group3	SDI Group3 AES Ch1-4 AES Ch5-8	
Audio Input Select Group4	SDI Group4	SDI Group4 AES Ch1-4 AES Ch5-8	

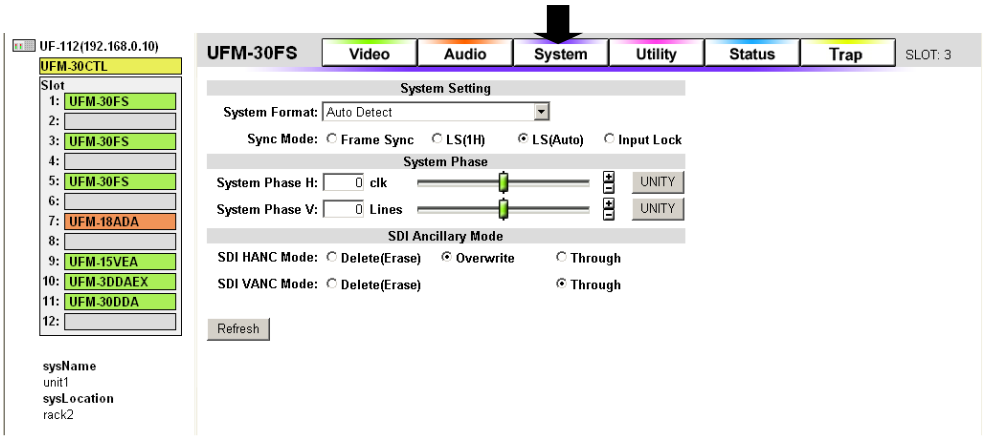
◆ **If Output is selected:**

Menu item	Default	Setting range	Description
Output Select Ch1/2	Ch1/2	Ch1/2 to Ch15/16	Allows you to select channels to be sent to AES outputs.
Output Select Ch3/4	Ch3/4		
Output Select Ch5/6	Ch5/6		
Output Select Ch7/8	Ch7/8		

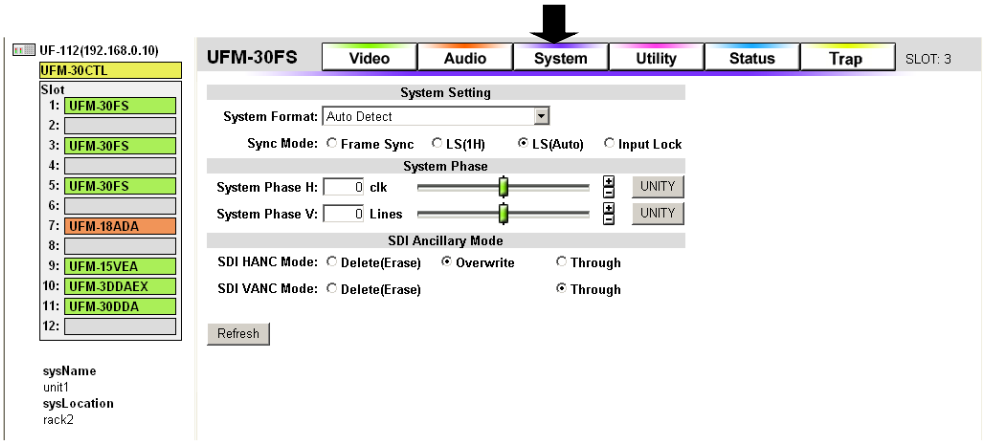
5-4. System Settings (System)

Click **System** among the six link buttons. The System page will be displayed. This page allows you to select the input video, and to change settings for sync and ancillary data.

◆ **If UFM-30FS/FS-DA is controlled:**



◆ **If UFM-30FS-R is controlled**



Menu item	Default (Unity)	Setting range	Description
Operate/ Bypass	Operate	Operate Bypass	Allows you to directly pass SDI IN1 to SDI OUT1 regardless of the Input Select setting and presence or absence of SDI IN2. No signal is output from SDI OUT2 and OUT3 during bypass mode.
System Format	Auto Detect	Auto Detect 525/60 625/50 1080/59.94i 1080/50i 720/59.94p 720/50p (*1)	Allows you to select a format to be used for the system. Auto Detection or a specific format can be selected.

Menu item	Default (Unity)	Setting range	Description
Sync Mode	Frame Sync	Frame Sync LS(1H) (*2) LS(Auto)(*2) Input Lock (*3)	Allows you to select a sync mode. **FRM Sync** (Frame sync): Locks the video signal to the genlock signal both in horizontal and vertical phase. Effective for both synchronous and asynchronous input. **LS (1H)(**1H Line sync): Locks the video signal to the genlock signal in horizontal phase from -1/2H to +1/2H and outputs with 1H delay. Effective only when the video signal and genlock signal are synchronous. Functions as a 1H AVDL. **LS(AUTO)** (Multi-line AVDL): Locks the video signal to the genlock signal from about -1/2 frame to +1/2H and outputs with 1H delay. Effective only when the video signal and genlock signal are synchronous. Function as a multi-line AVDL. This setting is useful for reducing video switching noises that occur with a minimum delay. **Input** (Input lock): Locks the video signal to the sync pulse in the video signal. The amount of delay can be set under System Phase and Frame Delay. However, the minimum delay is limited to 400 clk at 74 MHz (HD) and 27 MHz(SD) for all formats. A genlock signal is not used.
System Phase H	0 clk	(*4)	Allows you to adjust video phases to align with genlock signal. If Frame Sync or Line Sync is selected, alignment occurs with genlock signal. If Input Lock is selected, alignment occurs with SDI input signal.
System Phase V	0 Lines	(*4)	Settings are adjusted in clocks and lines of the system format, instead of the genlock signal. For example, if 1080/59.94i video is locked to B.B., the system phase settings are adjusted in clocks and lines of the 1080/59.94i format. The setting ranges are as shown below. -1100 to 0 to +1100 clk (horizontal) -563 to 0 to +563 Line (vertical)
SDI HANC Mode	Overwrite	Delete (Erase) Overwrite Through (*5)	**Delete (Erase)**: Deletes all ancillary data. Audio data packets will be processed according to the SDI Output Enable settings. **Overwrite** (Overwrite): Overwrites audio data packets. Other packets will pass through. **Through**: Passes through ancillary data without processing. SDI Output Enable settings are ineffective.
SDI VANC Mode	Through	Delete (Erase) Through (*5)(*6)	

(*1) The following 9 standards are also available if the standard support options are installed.
720/60p
1080/60i, /30p, /29.97p, /25p, /24p, /23.98p, /24PsF, /23.98PsF

Although the additional three standards, 1080/30PsF, /29.97PsF and /25PsF, are available, they are treated and displayed as 1080/60i, /59.94i and 50i respectively on the UFM-30FS/FS-R/FS-DA.
See System Setting in the UFM-30FS/FS-R/FS-DA operation manual about the relationship between reference and SDI signal standards.

(*2) If **SyncMode** is set to **Line Sync**, menu items V Position, Frame Delay, Freeze ON/OFF, and Freeze Field Select shown in section 5-2. "Video Settings (Video)" are disabled.

(*3) If the phase difference between SDI input signal and genlock signal is within ±1/2 H, set **Sys Phase V** to **+1**. If the phase difference is -1 H ±1/2 H, set **Sys Phase V** to **0.** If the phase difference is -2 H ± 1/2 H, set **Sys Phase V** to **-1**.

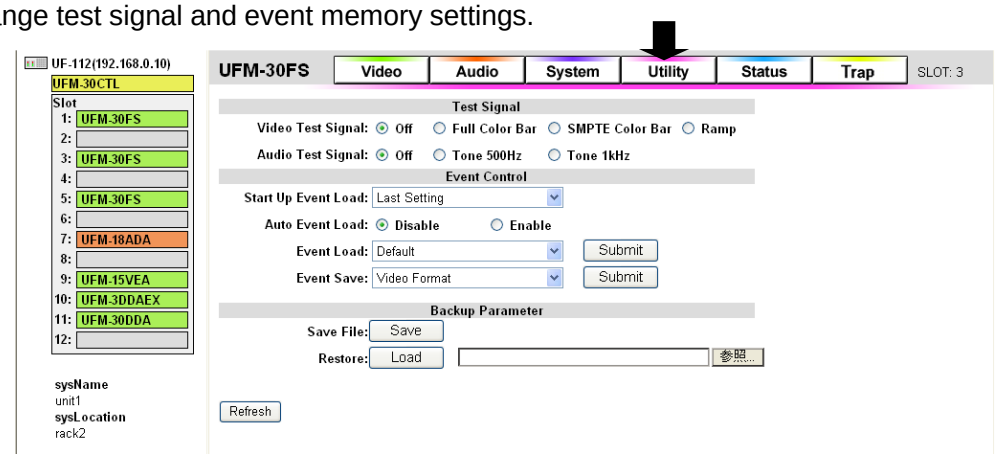
(*4) The setting range differs depending on the format. See the table "Video Phase Setting Range" in the UFM-30FS/FS-R/FS-DA Operation Manual for details.
If **Sync Mode** is set to I**nput Lock** when **Frame Delay** is set to **Off** and **Sys Phase** is set to **0 Line**, **Sys Phase H** can be between +400 and +1/2H. If it is set below 400 clk, it will be changed to 400 clk and the indication "Minimum" will appear.

(*5) TRS (HD/SD), line number, CRC(HD), and EDH(SD) will be overwritten regardless of the setting.

(*6) No audio data or noise will be carried on Switching lines regardless of this setting.

5-5. Utility Settings (Utility)

Click **Utility** among the six link buttons. The Utility page will be displayed. This page allows you to change test signal and event memory settings.



Menu item	Default	Setting range	Description
Video Test Signal	Off	Off Full Color Bar SMPTE Color Bar Ramp	Allows you to output a test signal. Test signals will appear in full screen regardless of **Video** menu settings.
Audio Test Signal	Off	Off Tone 500 Hz Tone 1 kHz	Allows you to output a test signal. An audio signal will be output to all output channels regardless of **AUDIO**, **SDI HANC Mode** and **SDI VANC Mode** menu settings.
Start Up Event Load (*1)	Last Setting	Last Setting Video Format Default Event 1 to 50	Allows you to select an event to load when booted. **Last Setting:** Loads the last settings before booting. **Video Format**: Detects the last video input format before booting and loads the settings specially defined for the video format. **Default**: Loads the default settings. **Event 1 to 50**: Loads the settings saved to events 1 to 50.
Auto Event Load (*1)	Disable	Disable Enable	**Enable**: Automatically loads default settings for each format.
Event Load (*1)	-	Default Video Format Event 1 to 50	**Default**: Resets to the default settings. **Video Format**: Loads default settings for each format. **Event 1 to 50**: Loads the settings selected from events 1 to 50.
Event Save (*1)(*2)	-	Video Format Event 1 to 50	**Video Format**: Saves the settings as default settings for the current video format. **Event 1 to 50**: Saves the settings to events 1 to 50.
Save File	-	-	Saves the setting of UFM-30FS/FS-R/FS-DA to a file.(See section 5.5.1. "Saving / Loading Parameters")
Restore	-	-	Loads the settings saved in a file to UFM-30FS/FS-R/ FS-DA. (See section 5.5.1. "Saving / Loading Parameters")

(*1) If **Auto Event Load** is set to **Enable**, **Event Load** and **Event Save** are not selectable.
Auto Event Load settings will have priority over **Start Up Event Load** settings, if UFM-30FS is rebooted while **Auto Event Load** is set to **Enable**. A **Start Up Event Load** setting cannot be changed if **Auto Event Load** is set to **Enable**.

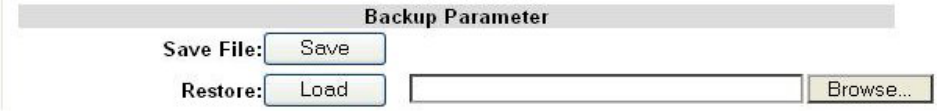
(*2) The following settings are not saved in events.
Menu settings:
Freeze ON/OFF
Video Test Signal
Audio Test Signal
Bypass/Operate

5-5-1. Saving / Loading Parameters

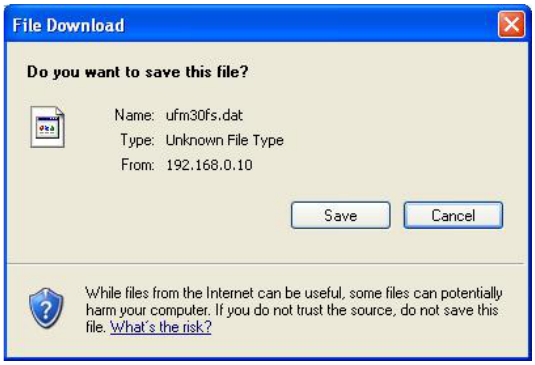
UFM-30FS/FS-R/FS-DA setting parameters can be saved as a file and loaded to the UFM-30FS/FS-R/FS-DA from the file.

To Save Current Settings as a File

(1) Click **Save** in the Backup Parameter area at the top of the Utility page.



(2) The **File Download** dialog appears. Click **Save**.

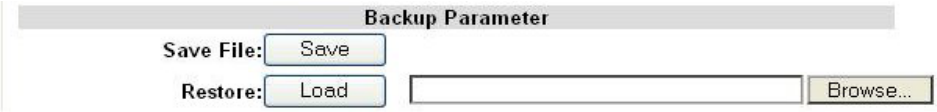

File Download
Do you want to save this file?
Name: ufm30fs.dat
Type: Unknown File Type
From: 192.168.0.10
Save
Cancel
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not save this file. What's the risk?

(3) The **Save As** dialog appears. Select a directory under which you wish to save the file and click **Save**. The file will be saved as "**ufm30fs.dat**" ("**ufm30fsr.dat**" for UFM-30FS-R and "**ufm30fsda.dat**" for UFM-30FS-DA). You can change the file name.

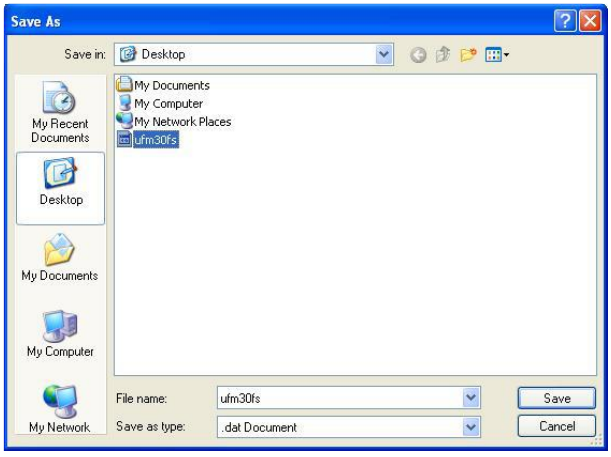
(4) The **Download Complete** dialog appears when the save is complete. Click **Close**.

To Load File Settings

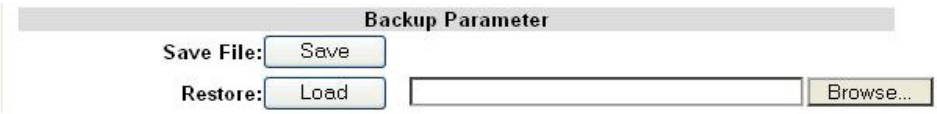
(1) Click **Browse** in the Backup Parameter area at the top of the Utility page. The **File Selection** dialog appears.



(2) Select a file, and click **Open**.



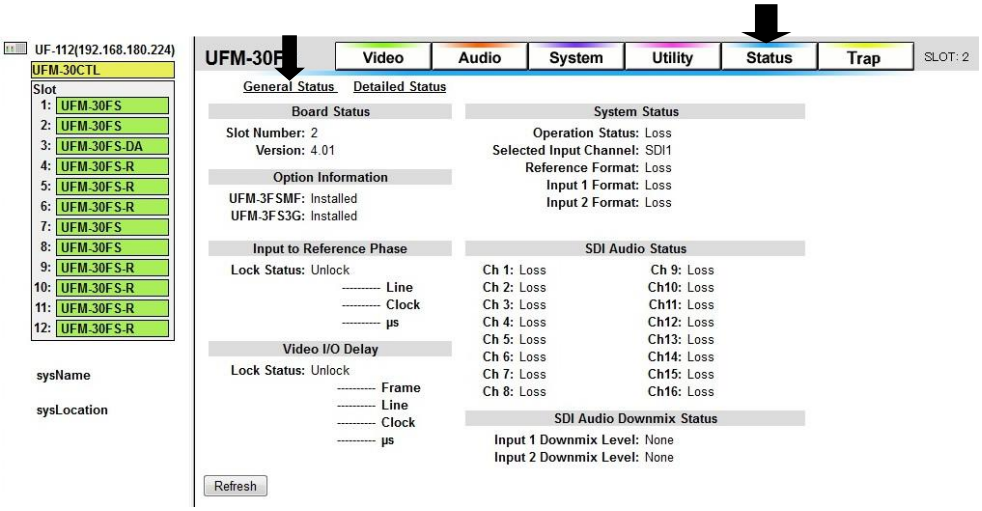
(3)Click **Load** in the Backup Parameter area at the top of the Utility page.



5-6. Status Display (Status)

Click **Status** among the six link buttons. The Status page will be displayed.

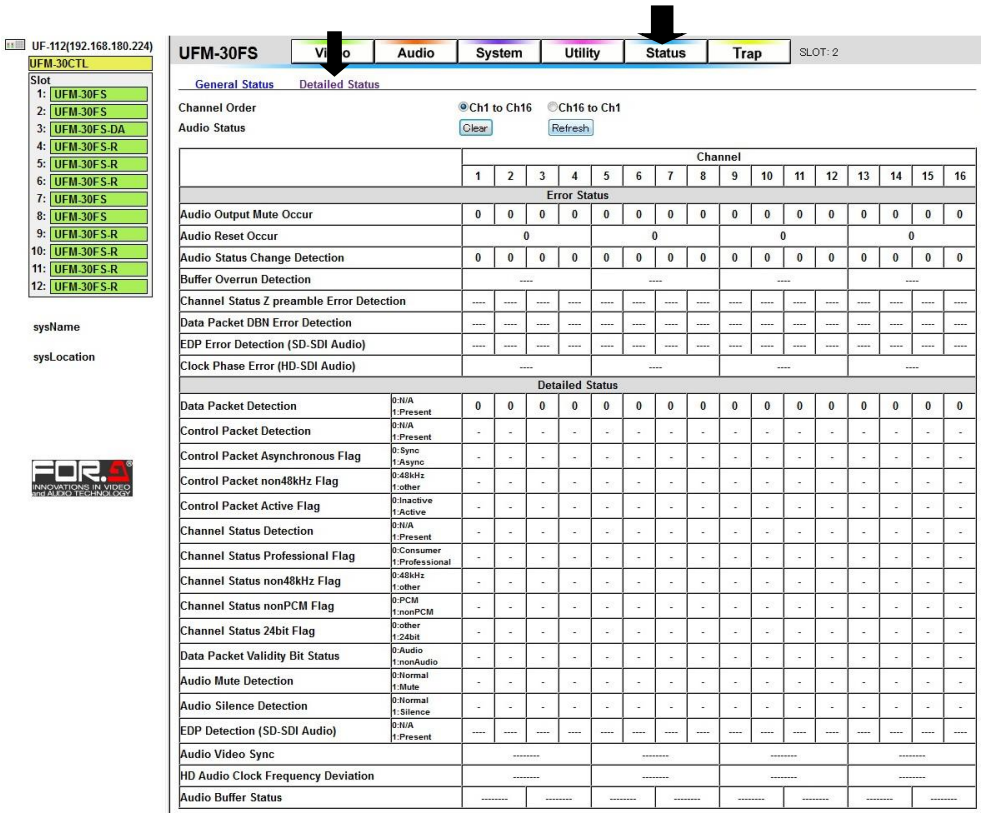
5-6-1. General Status



Menu item	Description
Slot Number	Slot number of installed module
Version	Version of module
UFM-3FSMF	Indicates whether UFM-3FSMF (optional) is installed.
UFM-3FS3G	Indicates whether UFM-3FS3G (optional) is installed.
Operation Status	Genlock status. **Loss**: Input signal not found. **Lock**: Genlocked. **Unlock**: Input signal cannot sync with genlock signal. **Bypass**: Input signal is bypassed. (UFM-30FS-R only)
Selected Input Channel	Currently selected input signal "Bypass" is also displayed if it is bypassed. (UFM-30FS-R only)
Reference Format	External genlock signal format
Input Format 1	SDI IN1 input signal format
Input Format 2	SDI IN2 input signal format
Input Reference Phase	Phase difference between input signal and genlock signal. Displayed by **Line, **Clock, or ** μ sec (or msec). ** μ sec indicates a total phase difference.
Video I/O Delay	Phase difference between input SDI and output SDI. Displayed by **Frame, **Line, **Clock, or ** μ sec (or msec). ** μ sec indicates a total delay.
SDI Audio Input Status Ch1 to SDI Audio Input Status Ch16	Status of SDI embedded audio channels **Loss**: No audio **PCM**: Normal audio **Silence**: Normal audio but mute (*1) **NonPCM**: Data signal **Unknown**: Audio of unknown type
Input 1 Downmix Level	Displays "Current Downmix" value in SDI IN 1. (-3 dB, -6 dB, -9 dB, 0 (-∞ dB), None, Unknown) (*2)
Input 2 Downmix Level	Displays "Current Downmix" value in SDI IN 2. (-3 dB, -6 dB, -9 dB, 0 (-∞ dB), None, Unknown) (*2)

(*1) See section 5-3-6 (for UFM-30FS/FS-R) or 5-3-7 (for UFM-30FS-DA) for silence detection settings.
(*2) "Current Downmix" is included in the ancillary data compliant with ARIB STD-B39.

5-6-2. Embedded Audio Status (Detailed Status) (FS/FS-R)


UF-112(192.168.180.224)
UFM-30CTL
Slot
1: UFM-30FS
2: UFM-30FS
3: UFM-30FS-DA
4: UFM-30FS-R
5: UFM-30FS-R
6: UFM-30FS-R
7: UFM-30FS
8: UFM-30FS
9: UFM-30FS-R
10: UFM-30FS-R
11: UFM-30FS-R
12: UFM-30FS-R
sysName
sysLocation
UFM-30FS
Video
Audio
System
Utility
Status
Trap
SLOT: 2
General Status
Detailed Status
Channel Order
Ch1 to Ch16
Ch16 to Ch1
Audio Status
Clear
Refresh
Channel
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Error Status
Audio Output Mute Occur 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Audio Reset Occur 0 0 0 0
Audio Status Change Detection 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Buffer Overrun Detection ---- ---- ---- ----
Channel Status Z preamble Error Detection ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
Data Packet DBN Error Detection ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
EDP Error Detection (SD-SDI Audio) ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
Clock Phase Error (HD-SDI Audio) ---- ---- ---- ----
Detailed Status
Data Packet Detection 0:N/A 1:Present 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Control Packet Detection 0:N/A 1:Present
Control Packet Asynchronous Flag 0:Sync 1:Async
Control Packet non48kHz Flag 0:48kHz 1:other
Control Packet Active Flag 0:Inactive 1:Active
Channel Status Detection 0:N/A 1:Present
Channel Status Professional Flag 0:Consumer 1:Professional
Channel Status non48kHz Flag 0:48kHz 1:other
Channel Status nonPCM Flag 0:PCM 1:nonPCM
Channel Status 24bit Flag 0:other 1:24bit
Data Packet Validity Bit Status 0:Audio 1:nonAudio
Audio Mute Detection 0:Normal 1:Mute
Audio Silence Detection 0:Normal 1:Silence
EDP Detection (SD-SDI Audio) 0:N/A 1:Present
Audio Video Sync
HD Audio Clock Frequency Deviation
Audio Buffer Status

Menu item	Default	Setting range	Description
Channel Order	ch1 to ch16	ch1 to ch16 ch16 to ch1	Selects the channel display order.
Audio Status	-	Clear Refresh	**Clear**: Clears error counts. **Refresh**: Refreshes the page manually. Normally the page is refreshed automatically.

Menu item	Description
Audio Output Mute Occur	Displays the number of audio mute instances that occur in the module. They may arise due to input audio error, signal switching or menu changes. Mute audio inputs are not counted as mute instances. (*1) (*2)
Audio Reset Occur	Displays the number of audio resets that occur in the module. They may arise due to audio errors detected in the SDI audio de-multiplexer circuit or signal switching. (*1)
Audio Status Change Detection	Displays the number of audio status changes. The corresponding statuses are from **Data Packet Detection** to **EDP Detection** listed below. (*1)
Buffer Overrun Detection	Displays the number of overrun and underrun errors that occur in the audio receiver buffer.(*1)
Channel Status Z preamble Error Detection	Displays the detected number of preamble Z errors, which are counted when audio signals (SDI or embedded) are switched. (*1)
Data Packet DBN Error Detection	Displays the number of DBN sequential errors detected in data packets, which occur when signals are switched. (*1)
EDP Error Detection	Displays the detected number of sampling mismatches between EDP and ADP. (*1)
Clock Phase Error	Displays the detected number of audio clock errors in ADP. (*1)

(*1) Pressing **Clear** resets counts.

(*2) Value is measured in the audio **output** process. Other parameter values are measured in the audio **input** process. Note that audio input and output channels are not the same because the output channels are remapped.

Menu item	0	1	*	-
Data Packet Detection	Absence	Presence	In process	Invalid
Control Packet Detection	Absence	Presence		
Control Packet Asynchronous Flag (*1)	Asynchronous	Synchronous		
Control Packet non48kHz Flag (*1)	48kHz	Other		
Control Packet Active Flag (*1)	Inactive	Active		
Channel Status Detection	Absence	Presence		
Channel Status Professional Flag	Consumer	Professional		
Channel Status non48kHz Flag (*1)	48kHz	Other		
Channel Status nonPCM Flag	Non-PCM	PCM		
Channel Status 24bit Flag	24bit	Other		
Data Packet Validity Bit Status	0	1		
Audio Mute Detection	Non-mute	Mute		
Audio Silence Detection (*1)	Non-silence	Silence		
EDP Detection	Absence	Presence		

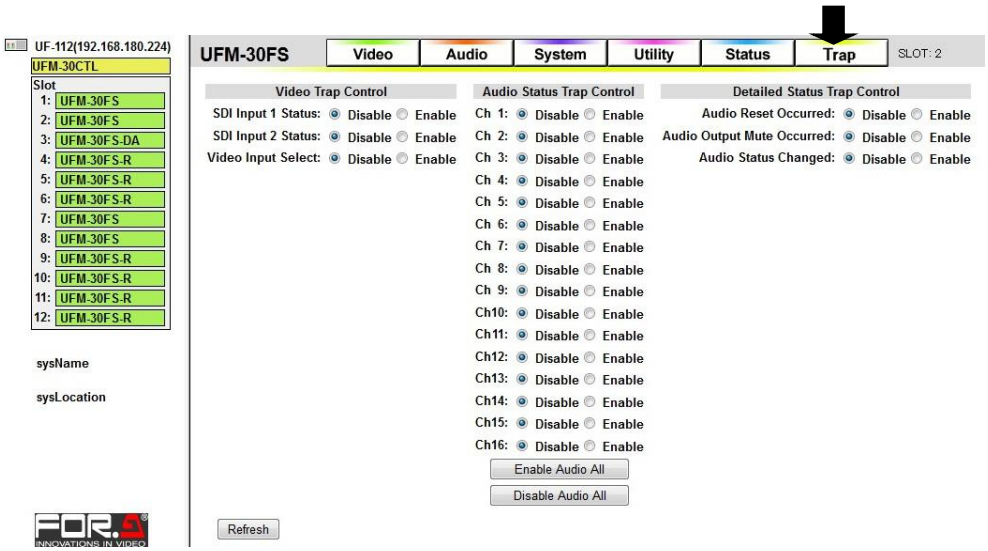
(*1) Value is used only for status display, and not for audio processing.

Menu item	Description
Audio Video Sync	Displays asynchronous or synchronous for each embedded audio group, displayed as the difference between the number of synchronous samples and actually received samples.(*1)(*2)
HD Audio Clock Frequency Deviation	Displays the frequency deviation between video and embedded audio. (in ppm)
Audio Buffer Status	Used to monitor the audio delay buffer overrun or underrun errors, which may arise due to asynchronous SD-SDI embedded audio or other audio errors. No errors happen if the number of occurrences is within **±1** (per 16 samples). Errors happen if the number of occurrences is **more than 3** or **less than -3** (per 48 samples). In such cases, receivers will reset.

(*1) Pressing **Clear** resets counts.
(*2) Value is used only for status display, and not for audio processing.

5-7. Trap Settings (Trap)

Click **Trap** among the six link buttons. The Trap page will be displayed. This page allows you to set whether or not to send traps of video and audio input states.



Menu item	Default	Setting range	Description
SDI Input 1 Status	Disable	Disable, Enable	Disables or enables traps of the SDI IN1 format state to be sent.
SDI Input 2 Status	Disable	Disable, Enable	Disables or enables traps of the SDI IN2 format state to be sent.
Video Input Select	Disable	Disable, Enable	Disables or enables traps of the selected video input to be sent.
Ch 1 to Ch 16	Disable	Disable, Enable	Disables or enables traps of each SDI embedded audio channel state to be sent.
Audio Reset Occurred	Disable	Disable, Enable	Disables or enables traps to be sent when audio resets occur.
Audio Output Mute Occurred	Disable	Disable, Enable	Disables or enables traps to be sent when audio output mutes occur.
Audio Status Changed	Disable	Disable, Enable	Disables or enables traps to be sent when audio states change.

(*1) Setting is unavailable on UFM-30FS-DA.

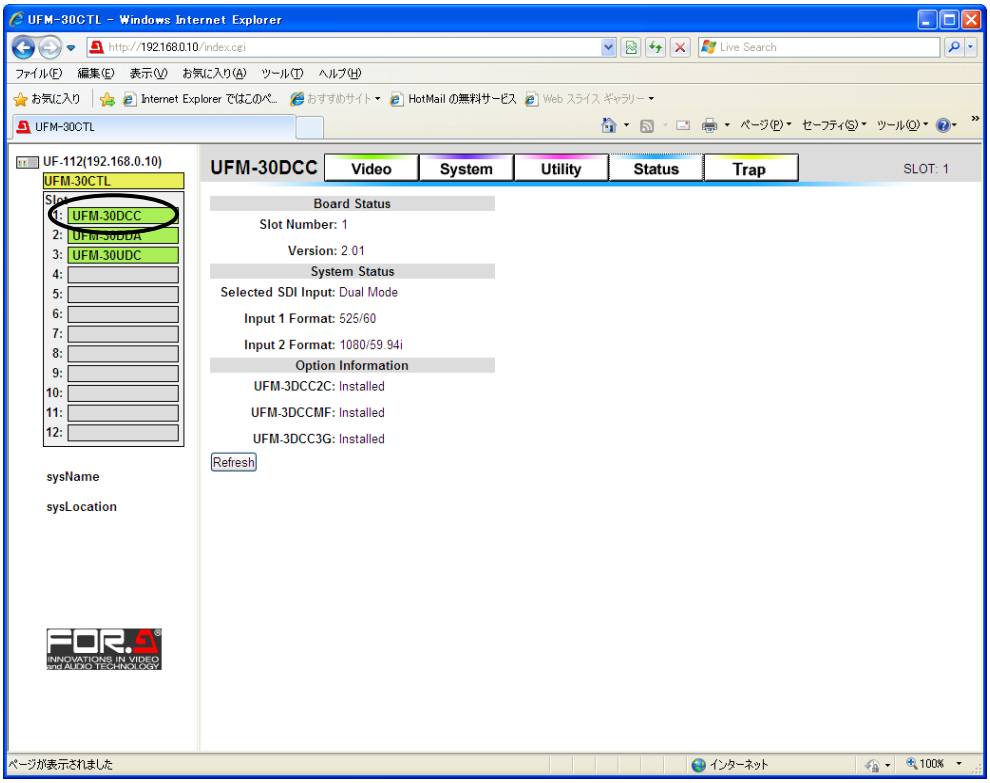
6. Controlling UFM-30DCC

The UFM-30CTL can control a UFM-30DCC that is installed in the same UFM frame as itself from a web browser on a computer.

> See the "UFM-30DCC Operation Manual" for the details on selectable functions and setting parameters.

6-1. Module Selection and Page Configuration (DCC)

(1) Select the **UFM-30DCC** you wish to control in the menu pane on the left edge of the web window.
(2) The Status page for the selected UFM-30DCC will be displayed. In the figure below, the UFM-30DCC module that is installed in Slot 1 of UF-112 is selected.

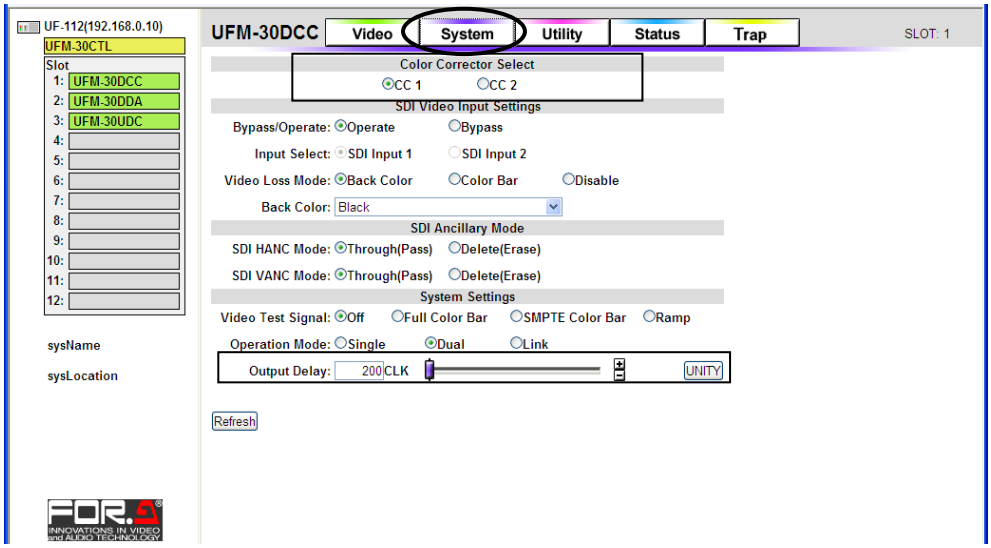


(3) The UFM-30DCC control window has five categories as shown below. Link buttons that allow you to jump to the corresponding page are provided along the top of the UFM-30DCC page.

Button	Setting description
Video	Allows to set video processing settings.
System	Allows to select an input video, set up system synchronization and ancillary data.
Utility	Allows to save/load event memory data.
Status	Allows to display video, audio and module status data.
Trap	Allows to implement SNMP trap events.

6-2. System Settings (System) (DCC)

Clicking on **System** in the UFM-30DCC window as indicated in the figure below opens the System page. This page is used to select an input video format, output a test signal, and pass or delete horizontal and vertical ancillary data.



6-2-1. Selecting a Color Corrector in a Dual Channel System

Color Corrector Select and **Operation Mode** are displayed when a dual channel option (UFM-3DCC2C) is installed. Select a color corrector and an operation mode first, then set other menu items. **Color Corrector Select** is displayed in all menu pages. The Dual Channel mode menu pages are used as examples in the following chapters.

Operation Mode	Color Corrector Select	Description
Single	---	**CC1** is used in **Single Channel** mode.
Dual	CC1, CC2	In **Dual Channel** mode, select a color corrector first, then adjust color correction.
Link	---	**CC1** is used in **Link** mode. Two color correctors are available and share the same setting except **Output Delay**.

The color correction setting is the same in Single Channel, Link and Dual Channel (CC1) modes. If you change the setting in some parameters and switch to another operation mode, these parameters also change accordingly in the new operation mode. To use default settings for each video format, save settings to an event and load them from the event when performing color correction.

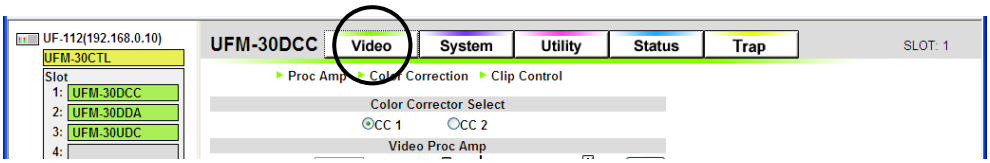
6-2-2. System Settings

Menu item		Default	Setting range	Description
Bypass/Operate		Operate	Operate Bypass	If set to **Bypass**, UFM-30DCC outputs the input video signal without correction.
Input Select		SDI Input1	SDI Input1 SDI Input2	Allows you to select a video channel to be processed.
Video Loss Mode		Back Color	Back Color Color Bar Disable	Allows you to select output when an input video is not present.
Back Color		Black	Black Gray Blue	Allows you to select a color for Back Color set above.
SDI HANC Mode		Through (Pass)	Through (Pass) Delete (Erase)	Through (Pass): Passes through ancillary data. Delete (Erase): Blanks the ancillary data area.
SDI VANC Mode		Through (Pass)	Through (Pass) Delete (Erase)	
Video Test Signal		Off	Off Full Color Bar SMPTE Color Bar Ramp	Allows you to output a test signal. The test signal is always displayed full screen regardless of the Video menu Split Mode setting.
Operation mode = Single or Dual	Output Delay	---	(Varies by video format.)	Allows you to adjust output delay. The setting range varies according to the video format from the minimum delay of each format to 1 H. Note that the output delay is reset to the minimum delay each time the video format changes. (See the table below.)
Operation mode = Link	Output Delay1	---	(Varies by video format.)	Allows you to adjust output delay for Color Corrector 1. The setting range varies according to the video format from the minimum delay of each format to 1 H. Note that the output delay is reset to the minimum delay each time the video format changes. (See the table below.)
	Output Delay2	---	(Varies by video format.)	Allows you to adjust output delay for Color Corrector 2. The setting range varies according to the video format from the minimum delay of each format to 1 H. Note that the output delay is reset to the minimum delay each time the video format changes. (See the table below.)

Video Format	Default
525/60	200CLK to 1716CLK
1080/59.94i	140CLK to 2200CLK
720/59.94p	140CLK to 1650CLK
625/50	200CLK to 1728CLK
1080/50i	140CLK to 2640CLK
720/50p	140CLK to 1980CLK

6-3. Video Settings (Video) (DCC)

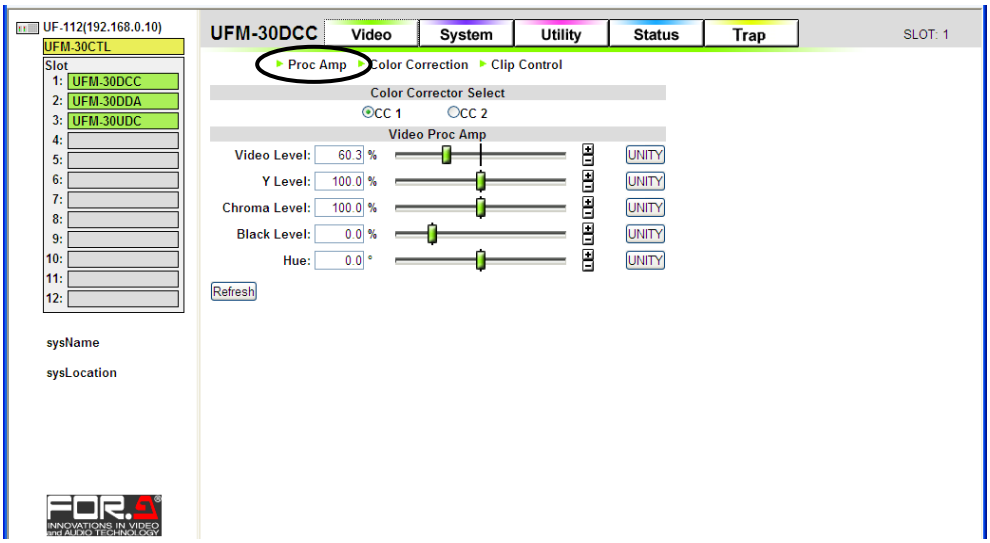
The Video menu consists of 3 pages. Clicking the **Video** button will display links to Video submenus beneath the category buttons such as Video.
In the submenu pages, Process Amplifier, Color Correction and Clip mode can be set.
The **Proc Amp** page appears first when you click on the **Video** button.



Submenu	Description
Proc Amp	Allows you to adjust Proc settings.
Color Correction	Allows you to perform color correction.
Clip Control	Allows you to set the video color space.

6-3-1. Proc Amp

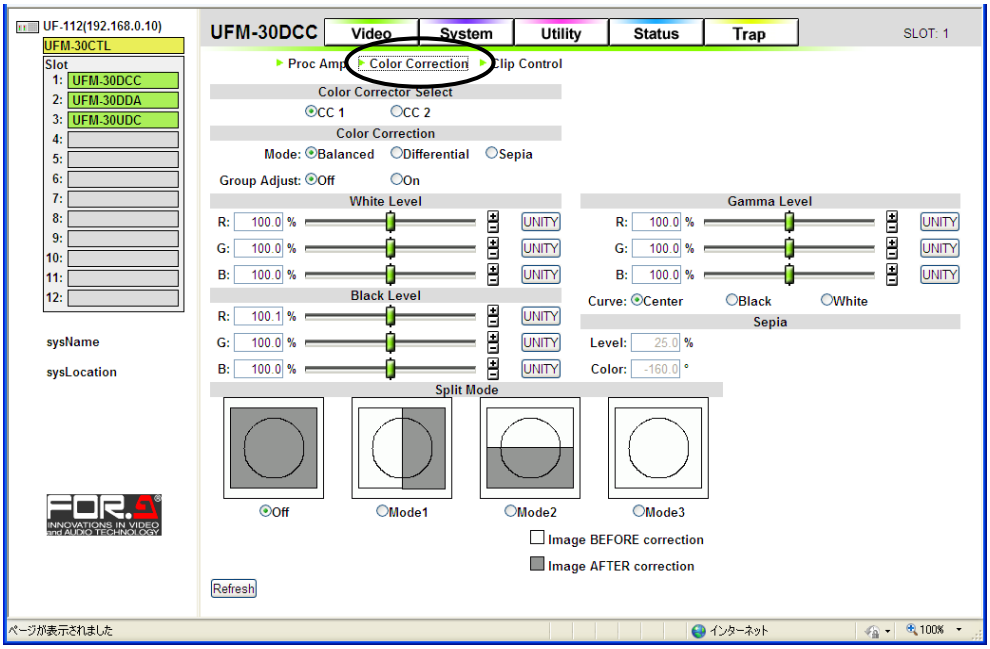
Clicking on **Proc Amp** in the Video page as indicated in the figure below opens the Video - Proc Amp page. This page is used to adjust video signal parameters using a Proc Amp.



Menu item	Default	Setting range	Description
Video Level	100.0%	0.0 to 200.0%	Allows you to adjust the video level.
Y Level	100.0%	0.0 to 200.0%	Allows you to adjust the luminance level.
Chroma Level	100.0%	0.0 to 200.0%	Allows you to adjust the chroma level.
Black Level	0.0%	-7.0 to 25.0%	Allows you to adjust the black level.
Hue	0.0˚	-180.0 to 180.0˚	Allows you to adjust the hue.

6-3-2. Color Correction

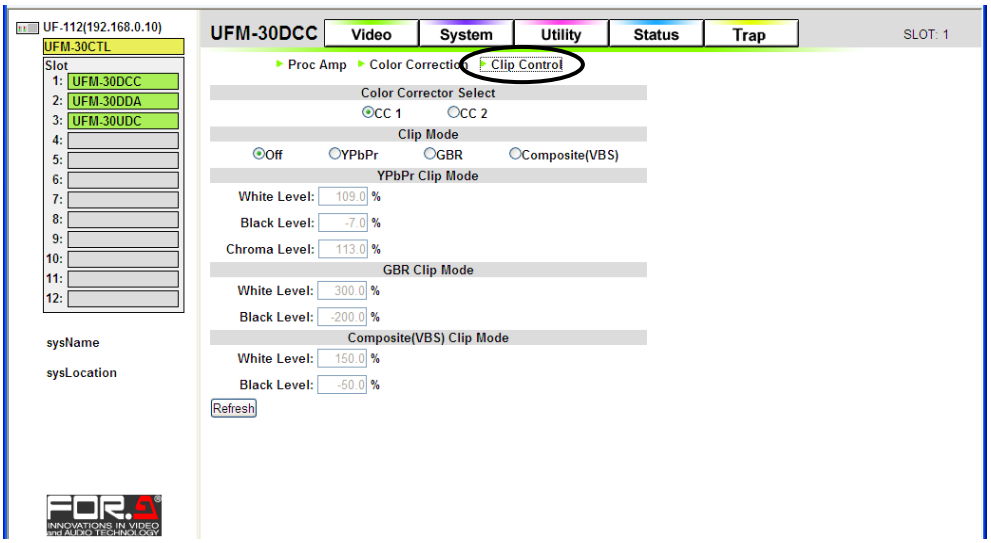
Clicking on **Color Correction** in the Video page as indicated in the figure below opens the Video – Color Correction page. This page is used to adjust video color parameters through the following settings.



Menu item		Default (Unity)	Setting range	Description
Mode		Balanced	Balanced Differential Sepia	Allows you to select a color correction mode from among Balanced (RGB), Differential (YPbPr) or Sepia.
Group Adjust		Off	Off On	Allows you to adjust R, G and B components together or individually. Off: Adjusts R, G and B individually. On: Adjusts R, G and B together.
White Level	RGB	100.0%	0.0 to 200.0%	Allows you to adjust White level R, G and B settings. (Not available in Sepia mode)
Black Level	RGB	100.0%	0.0 to 200.0%	Allows you to adjust Black level R, G and B settings. (Not available in Sepia mode)
Gamma Level	RGB	100.0%	0.0 to 200.0%	Allows you to adjust Gamma level R, G and B settings. (Only the Y signal can be set using G adjustment in Sepia Mode. R and B are disabled.)
Gamma Curve		Center	Center Black White	Allows you to select a preset gamma curve. **Center**: Gamma curve is weighted toward mid tones (near 50%). **Black**: Gamma curve is weighted toward Shadows (near 25%) **White**: Gamma curve is weighted toward Highlights (near 75%)
Sepia	Level	25.0%	0.0 to 100.0%	Allows you to set a sepia level in Sepia mode.
	Color	-160.0°	-180.0 to 180.0°	Allows you to set a sepia color in Sepia mode.
Split Mode		Off	Off Mode1 Mode2 Mode3	Allows you to select a split mode on the monitor. **Off**: Displays the corrected image. **Mode1**: Splits the screen vertically and displays images before and after correction. **Mode2**: Splits the screen horizontally and displays images before and after correction. **Mode3**: Displays the image before correction.

6-3-3. Clip Control

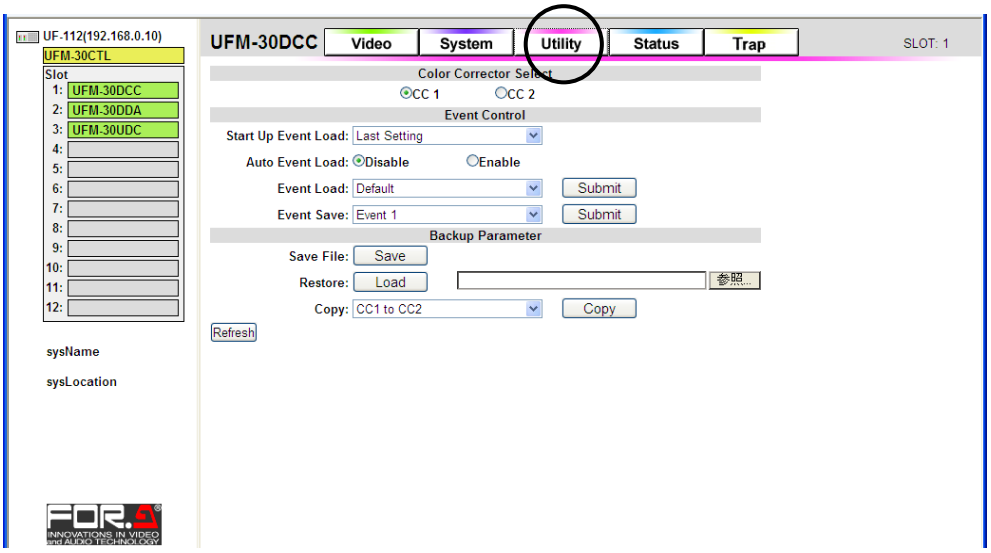
Clicking on **Clip Control** in the Video page as indicated in the figure below opens the Video - Clip Control page. This page is used to clip levels and correct color space.



Menu item		Default (Unity)	Setting range	Description
Clip Mode		Off	Off YPbPr GBR Composite(VBS)	Allows you to select a clip mode. **Off**: No clipping. **YPbPr**: Clips levels in YPbPr color space. **GBR**: Clips levels in GBR color space. **Composite(VBS)**: Clips levels in Composite color space.
YPbPr Clip Mode	White Level	109.0%	50.0 to 109.0%	Allows you to specify the highest Y signal clipping value in YPbPr clip mode.
	Black Level	-7.0%	-7.0 to 50.0%	Allows you to specify the lowest Y signal clipping value in YPbPr clip mode.
	Chroma Level	113.0%	50.0 to 113.0%	Allows you to specify the Chroma signal clipping amplitude in YPbPr clip mode.
GBR Clip Mode	White Level	300.0%	50.0 to 300.0%	Allows you to set the White clipping level in RGB clip mode.
	Black Level	-200.0%	-200.0 to 50.0%	Allows you to set the Black clipping level in RGB clip mode.
Composite (VBS) Clip Mode	White Level	150.0%	50.0 to 150.0%	Allows you to set the White clipping level in Composite(VBS) clip mode.
	Black Level	-50.0%	-50.0 to 50.0%	Allows you to set the Black clipping level in Composite(VBS) clip mode.

6-4. Utility Settings (Utility) (DCC)

Clicking on **Utility** in the UFM-30DCC window as indicated in the figure below opens the Utility page. This page is used to specify start-up settings and save and load events.



Menu item	Default	Setting range	Description
Start Up Event Load (*1)	Last Setting	Last Setting Video Format Default Event 1 to 50	Allows you to select an event to load when booted. **Last Setting:** Loads the previous settings before booting. **Video Format**: Detects the previous video input format before booting and loads settings specially defined for the video format. **Default**: Loads the default settings. **Event 1 to 50**: Loads saved event settings 1 to 50.
Auto Event Load (*1)	Disable	Disable Enable	**Enable**: Automatically loads default settings for each video format.
Event Load (*1)	-	Default Video Format Event 1 to 50	**Default**: Resets to default settings. **Video Format**: Loads default settings for each video format. **Event 1 to 50**: Loads settings selected from events 1 to 50.
Event Save (*1)(*2)	-	Video Format Event 1 to 50	**Video Format**: Saves current video format settings as default. **Event 1 to 50**: Saves event settings 1 to 50.
Save File	-	-	Saves the UFM-30DCC setting parameters to a file.(See section 6-4-1. ."Saving / Loading Parameters.")
Restore	-	-	Loads the settings saved in a file to UFM-30DCC. (See section 6-4-1.."Saving / Loading Parameters.")
Copy	-	CC1 to CC2 CC2 to CC1	Pressing COPY copies setting from CC1 to CC2 or CC2 to CC1..

(*1) If **Auto Event Load** is set to **Enable**, **Event Load** and **Event Save** are non-selectable.
The **Auto Event Load** setting takes priority over the **Start Up Event Load** setting, if UFM-30DCC is rebooted while **Auto Event Load** is set to **Enable**. The **Start Up Event Load** setting cannot be changed if **Auto Event Load** is set to **Enable**.

(*2) The following settings are not saved in events.
Menu settings: Group Adjust
Bypass/Operate

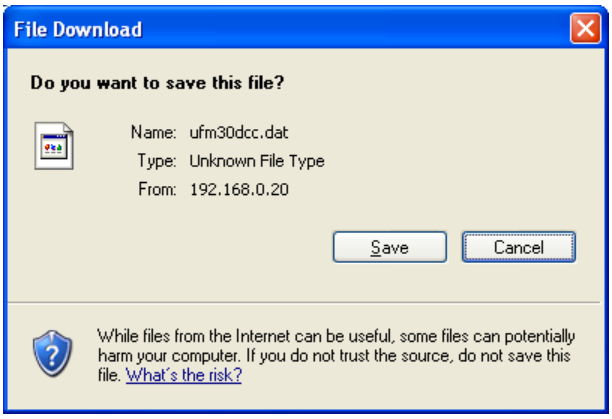
6-4-1. Saving / Loading Parameters

UFM-30DCC parameters can be saved as a file and loaded to the UFM-30DCC from the file.

◆ **To Save Current Settings as a File**

(1) Click Save in the Backup Parameter area at the top of the Utility page.

(2) The File Download dialog appears. Click **Save**.

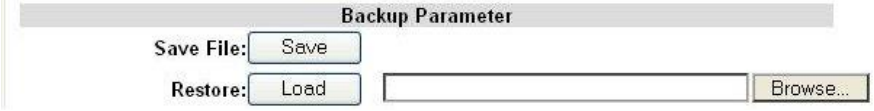

File Download
Do you want to save this file?
Name: ufm30dcc.dat
Type: Unknown File Type
From: 192.168.0.20
Save
Cancel
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not save this file. What's the risk?

(3) The Save As dialog appears. Select a directory under which you wish to save the file and click **Save**. The file will be saved as **ufm30dcc.dat**. You can rename the file name.

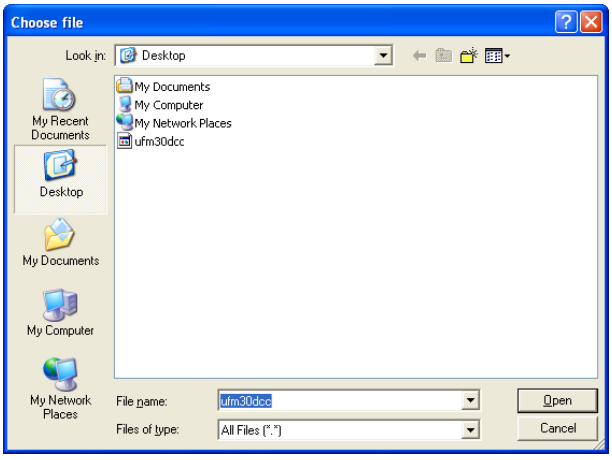
(4) The Download Complete dialog appears when the save is complete. Click **Close** to close the window.

◆ **To Load Settings from a File**

(1) Click **Browse** in the Backup Parameter area at the top of the Utility page. The File Selection dialog appears.



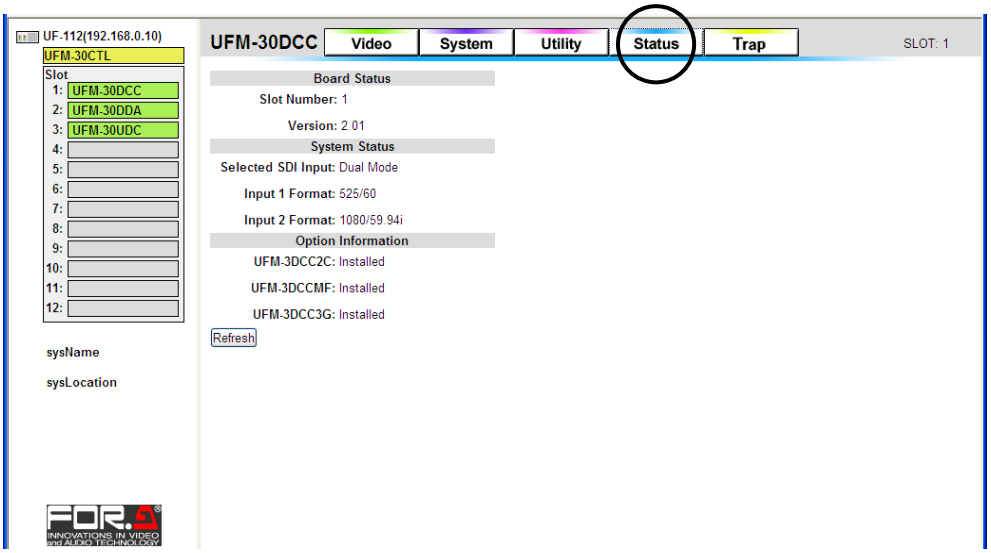
(2) Select a file, and click **Open**.



(3) Click **Load** in the Backup Parameter area at the top of the Utility page to load the file to UFM-30DCC.

6-5. Status Display (Status) (DCC)

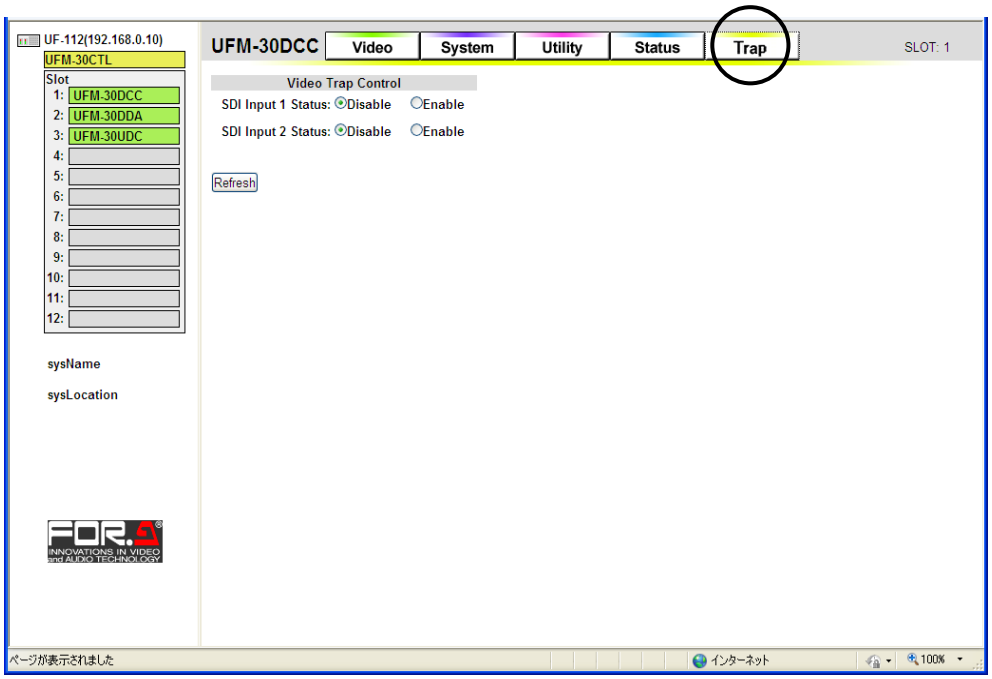
Clicking on **Status** in the UFM-30DCC window as indicated in the figure below opens the Status page. This page shows status displays of the video signal and UFM-30DCC board.



Menu item	Description
Slot Number	Slot number of installed module
Version	Module version
Selected SDI Input	Currently selected SDI input
Input Format 1	Format of SDI IN1 input signal
Input Format 2	Format of SDI IN2 input signal
UFM-3DCC2C	Displays status of dual channel option. **Install**: Dual channel option is installed. **None**: Dual channel option is not installed.
UFM-3DCCMF	Displays status of multi-format option. **Install**: Multi-format option is installed. **None**: Multi-format option is not installed. * "Install" is shown when a 3G-SDI option is installed.
UFM-3DCC3G	Displays status of 3G-SDI option. **Install**: 3G-SDI option is installed. **None**: 3G-SDI option is not installed.

6-6. SNMP Trap Settings (DCC)

Clicking on **Trap** in the UFM-30DCC window as indicated in the figure below opens the Trap page. This page is used to set SNMP traps.



Menu item	Description
SDI Input 1 Status	Sets to enable/disable SNMP traps to be sent when the SDI IN1 signal format has changed.
SDI Input 2 Status	Sets to enable/disable SNMP traps to be sent when the SDI IN2 signal format has changed.

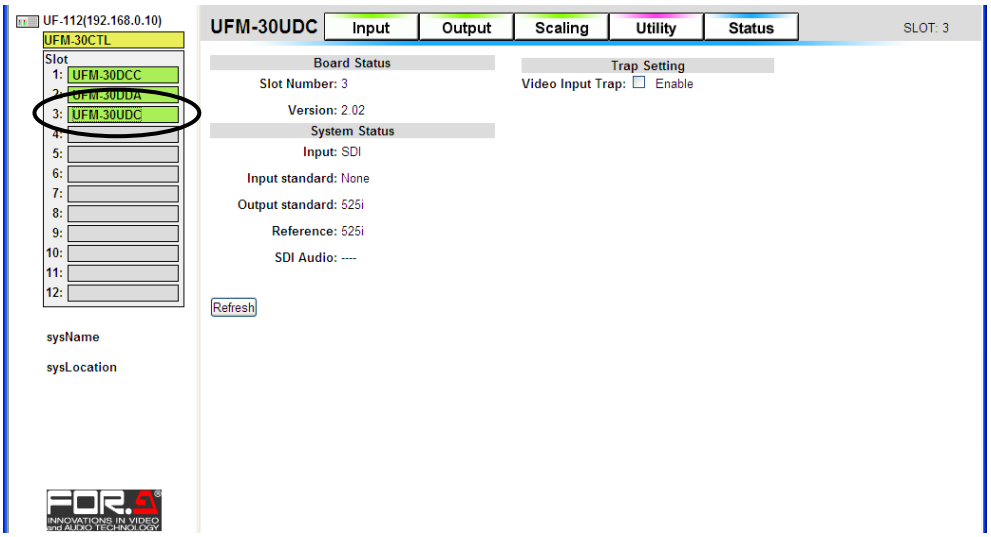
7. Controlling UFM-30UDC

The UFM-30CTL can control a UFM-30UDC that has been installed in the same UFM frame from a web browser on a computer.

> UFM-30UDC module units can be controlled from the unit OSD menu and UFM-30CTL simultaneously. When changing the same menu parameter, the OSD menu has a higher priority than UFM-30CTL.
>
> See the "UFM-30UDC Operation Manual" for the details on selectable functions and setting parameters.

7-1. Module Selection and Page Configuration (UDC)

(1) Select the **UFM-30UDC** you wish to control in the menu pane on the left edge of the web window.
(2) The Status page for the selected UFM-30UDC will be displayed. In the figure below, the UFM-30UDC module that is installed in Slot 3 of UF-112 is selected.

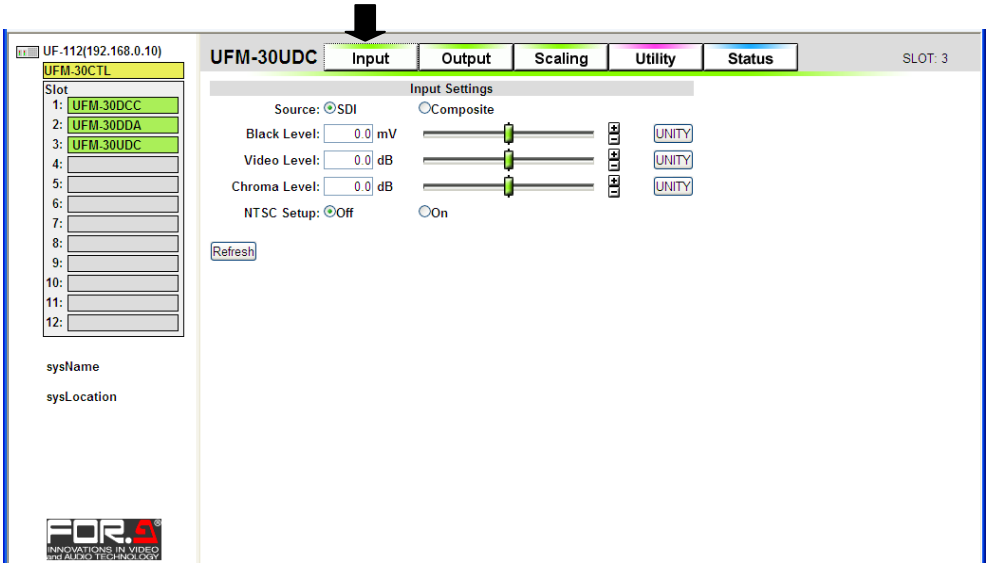


(3) The UFM-30UDC control window has five categories as shown below. Link buttons that allow you to jump to the corresponding pages are provided along the top of the UFM-30UDC page.

Button	Setting description
Input	Allows to select input video and adjust video signal level.
Output	Allows to output video, a test signal and ancillary data.
Scaling	Allows to set aspect ratio scaling, enhancer and motion filter features.
Utility	Allows to save/load event memory data.
Status	Allows to display video, audio and module status data.

7-2. Video Settings (Input) (UDC)

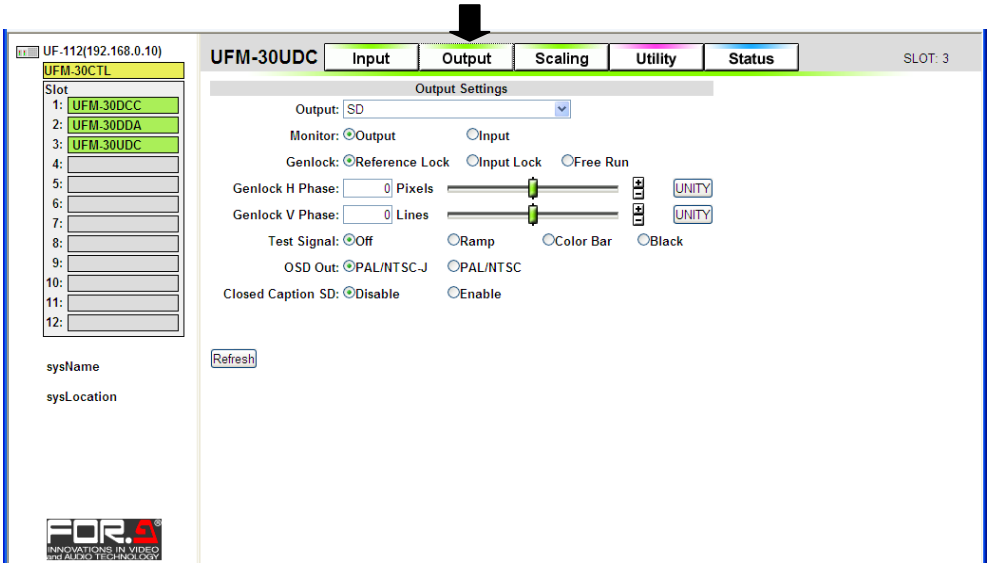
Clicking the **Input** button in the right pane of the browser window opens the Input page. This page is used to select an input video and adjust video signal levels.



Menu item	Default (Unity)	Setting range (Step)	Description
Source	SDI	SDI Composite	Selects video source from among two video inputs. (The video format is auto-detected.)
Black Level	0.0 mV	-100 to +100 mV (0.8 mV)	Adjusts the video signal black level.
Video Level	0.0 dB	-6.0 to +6.0 dB (0.2 dB)	Adjusts the video signal contrast.
Chroma Level	0.0 dB	-6.0 to +6.0 dB (0.2 dB)	Adjusts the chrominance level.
NTSC Setup	Off	Off On	Selects the NTSC setup level between 0IRE(Off) and 7.5IRE(On).

7-3. Video Settings (Output) (UDC)

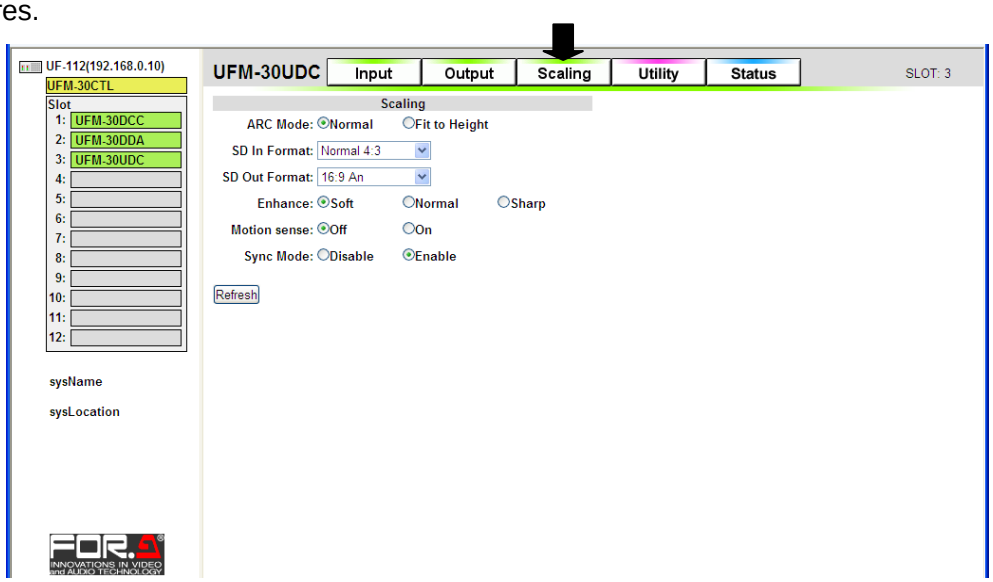
Clicking the **Output** button along the top edge of the browser window opens the Output page. This page is used to select the output video format and synchronization mode and output a test signal when necessary.



Menu item	Default	Setting Range	Description
Output	SD	SD 720P 1080i 1080P-A 1080P-B	Selects the output video format. **SD** (525/60 or 625/50) **720P** (720/59.94p or 720/50p) **1080i** (1080/59.94i or 1080/50i) **1080P-A** (1080/59.94p Level A or 1080/50p Level A) **1080P-B** (1080/59.94p Level B or 1080/50p Level B)
Monitor	Output	Output Input	Selects the monitor image sent to SDI MONITOR and OSD OUT between the signal before (Input) and after (Output) processing.
Genlock	Free Run	Reference Lock Input Lock Free Run	Selects the reference mode. **Reference lock**: Outputs the genlocked video for frame-accurate synchronization. If BB is used for the reference, the sub-carrier phase of composite video is not adjusted. (Horizontal lock only) **Input lock**: Outputs the input-locked video. **Free run**: Outputs the video in free running mode.
Genlock H Phase	0Pixels	-1/2 H to +1/2 H (1 Pixel)	If Genlock is set to **Reference lock**, adjusts the system H phase in 1-pixel increments referring to the genlock signal.
Genlock V Phase	0Lines	-1/2 V to +1/2 V (1 Line)	If Genlock is set to **Reference lock**, adjusts the system V phase in 1-line increments referring to the genlock signal.
Test Signal	Off	Off Ramp Color Bar Black	Outputs an internally generated test signal.
OSD Out	PAL/ NTSC-J	PAL/NTSC-J PAL/NTSC	Selects the NTSC setup level between 0IRE (PAL/NTSC-J) and 7.5IRE (PAL/NTSC) when using the NTSC composite monitor.
Closed Caption SD	Enable	Disable Enable	CC (closed caption) data can be passed (Enable) or blanked (Disable) (59.94 only) The CC data (Line21) in Composite or SD-SDI input is inserted to 3G/HD-SDI output during up-conversion. The CC data (VANC) in 3G/HD-SDI input is inserted to SD-SDI output during down-conversion.

7-4. Aspect Ratio Scale Setting (Scaling) (UDC)

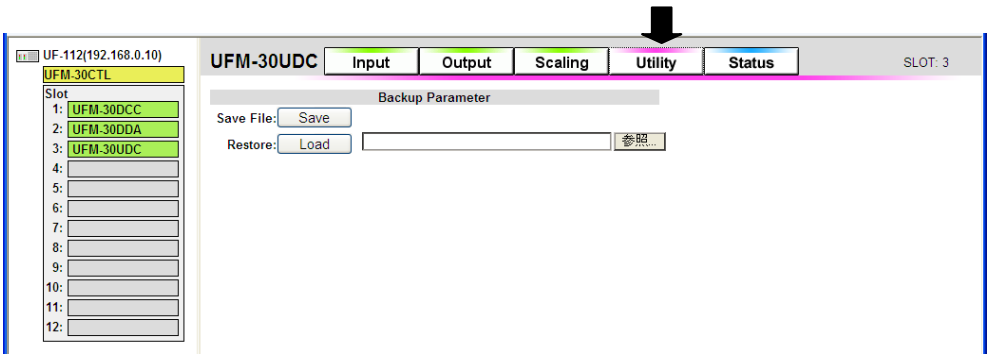
Clicking the **Scaling** button along the top of the browser window opens the Scaling page. This page is used to set the aspect ratio of video, video enhancement and motion adaptive filter features.



Menu item	Default	Setting Range	Description
ARC Mode	Normal	Normal Fit to Height	Sets the automatic scaling mode when inputting SD-SDI signals. **Normal** performs scaling based on object width. **Fit to height** performs scaling based on object height.
SDI In Format	4:3	4:3 16:9 An 16:9 LB 14:9 LB 13:9 LB	Specifies the aspect ratio when inputting SD-SDI signals.
SDI Out Format	4:3	4:3 16:9 An 16:9 LB 14:9 LB 13:9 LB	Specifies the aspect ratio when outputting SD-SDI signals.
Enhance	Normal	Soft Normal Sharp	Selects an edge enhancement level from three options.
Motion sense	Disable	Disable Enable	Sets the motion sensing filter On/Off. **On**: Effective for images with little movement. The vertical resolution for areas with less motion is doubled. **Off**: Effective for images with a lot of movement. Produces smooth results for such images.
Sync Mode	Enable	Disable Enable	**Enable**: Allows you to reduce I/O delay by bypassing the scaling process, if the input and output signals have the same format and scaling is not needed. Also passes VANC data. Scaling is automatically processed and VANC data is not passed through even when Sync mode is set to Enable, if the input and output formats are different or scaling is required during conversion. **Disable**: Performs scaling and VANC data is not passed through.

7-5. Utility Settings (Utility) (UDC)

Clicking the **Utility** button along the top of the browser window opens the Utility page. This page is used to save and load parameter settings.



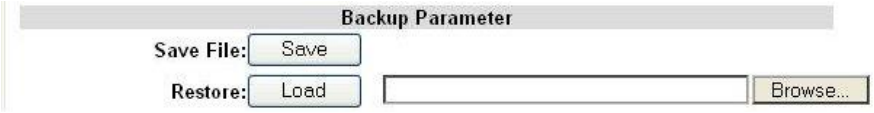
Menu item	Description
Save File	Saves the UFM-30UDC settings to a file. (See section 7-5-1 below.)
Restore	Loads parameter settings to the UFM-30UDC from a file. (See section 7-5-1 below.)

7-5-1. Saving / Loading Parameters

UFM-30UDC parameters can be saved as a file and loaded back to UFM-30UDC from the file.

◆ **To Save Current Settings as a File**

(1) Click **Save** in the Backup Parameter area at the top of the Utility page.



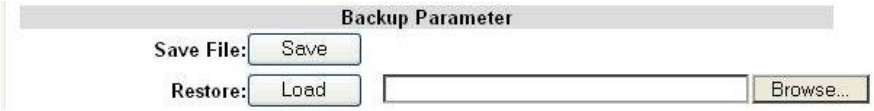
(2) The **File Download** dialog appears. Click **Save**.

(3) The **Save As** dialog appears. Select a directory under which you wish to save the file and click **Save**. The file will be saved as **ufm30udc.dat**. You can change the file name.

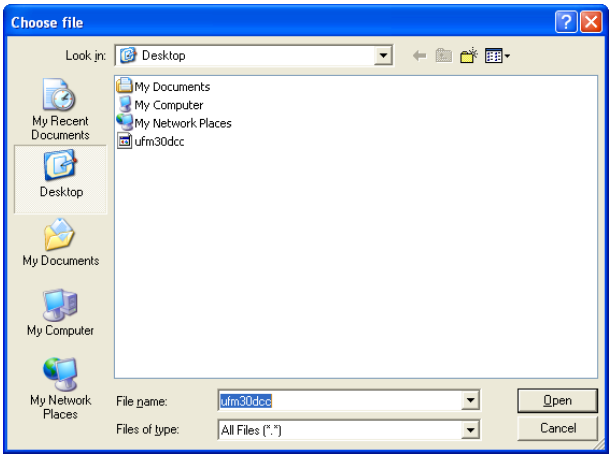
(4) The **Download Complete** dialog appears when the save is complete. Click **Close** to close the window.

◆ **To Load Settings from a File**

(1) Click Browse in the Backup Parameter area at the top of the Utility page. The File Selection dialog appears.



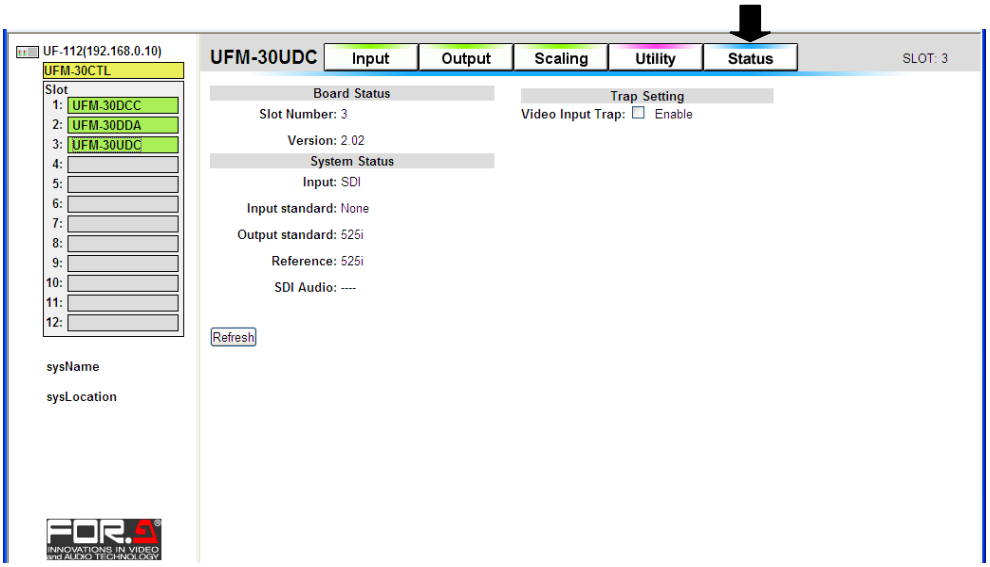
(2) Select a file, and click Open.



(3) Click **Load** in the Backup Parameter area at the top of the Utility page to load the file to UFM-30UDC.

7-6. Status Display (Status) (UDC)

Clicking on **Status** in the UFM-30UDC window as indicated in the figure below opens the Status page. This page shows the video signal and UFM-30UDC board status.



Menu item	Description
Slot Number	Slot number of installed module
Version	Version of the module
Input	The currently selected input source (SDI or Composite)
Input Standard	Input signal video standard
Output Standard	Output signal video standard
Reference	Displays the genlock input signal standard to the UFM frame. (Displayed even when genlock signal is not used.)
SDI Audio	Displays if embedded audio is included in the SDI output.
Video Input Trap	Allows you to decide whether to issue an SNMP trap if the input signal format is changed.

8. Controlling UFM-42HDRS/HDRSA

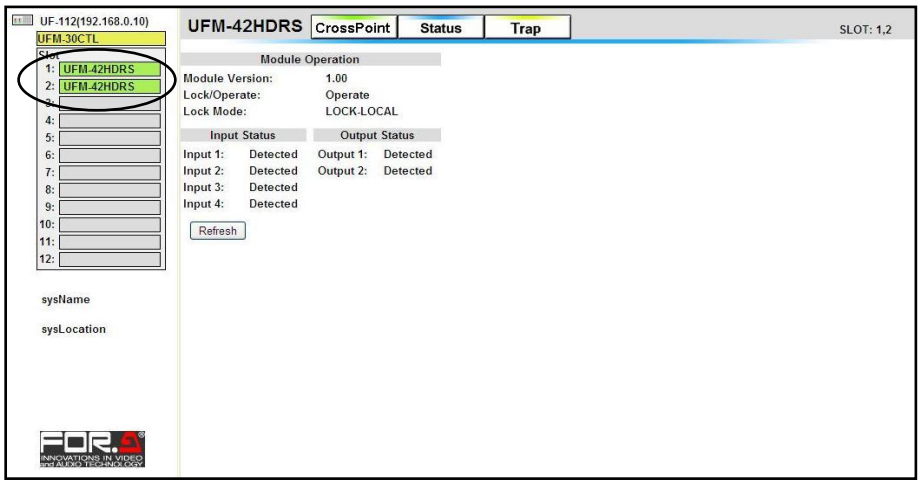
The UFM-30CTL can control a UFM-42HDRS/HDRSA that is installed in the same UFM frame as itself from a web browser on a computer.

> See the "UFM-42HDRS/HDRSA Operation Manual" for the details on selectable functions and setting parameters.
>
> Note that both UFM-42HDRS and UFM-42HDRSA module units are displayed as UFM-42HDRS on the UFM-30CTL control pages.

8-1. Module Selection and Page Configuration (42HDRS)

(1) Select the **UFM-42HDRS** you wish to control in the menu pane on the left edge of the web window.

(2) The Status page for the selected module will be displayed. In the figure below, the UFM-42HDRS module that is installed in Slot **1 and 2** of UF-112 is selected.

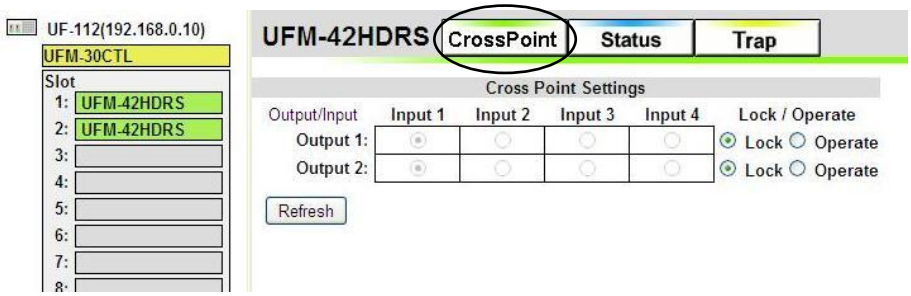


(3) The UFM-42HDRS control window has three categories as shown below. Link buttons that allow you to jump to the corresponding page are provided along the top of the page.

Button	Setting description
Cross Point	Allows switching of output signals.
Status	Allows display of video input and output status.
Trap	Allows implementation of SNMP trap events.

8-2. Crosspoint Switches (CrossPoint) (42HDRS)

Clicking the **Crosspoint** button in the right pane of the browser window opens the Crosspoint Settings page. This page allows you to switch output signals.



◆ **Switching Crosspoints**

To switch the Output 1 signal:

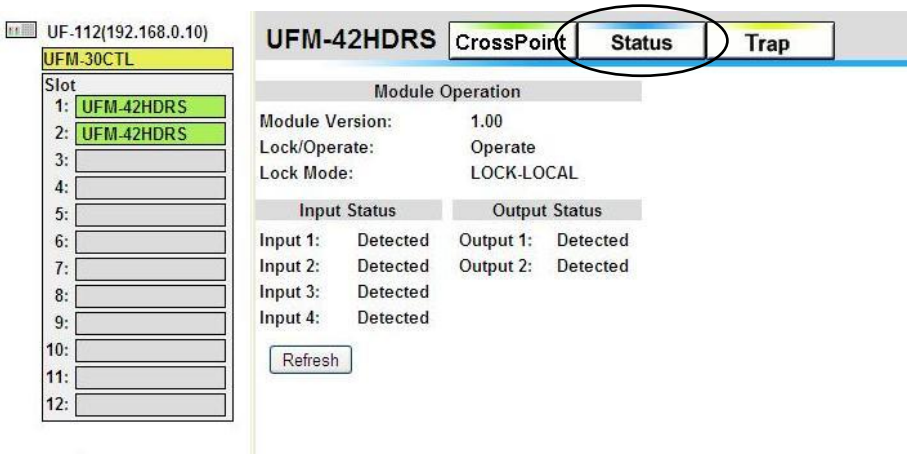
(1) Click to check on **Operate** at the right side of Output 1 to enable switching.
(2) Click to select a video signal from **Input 1** to **Input 4**.

In the same way, switch the crosspoint for Output 2.

NOTE
Note that, to avoid operational accidents, **Lock** is always selected when the Crosspoint page is displayed.

8-3. Status Display (Status) (42HDRS)

Clicking the **Status** button in the right pane of the browser window opens the Status page. This page allows you to check module and input and output signal statuses.



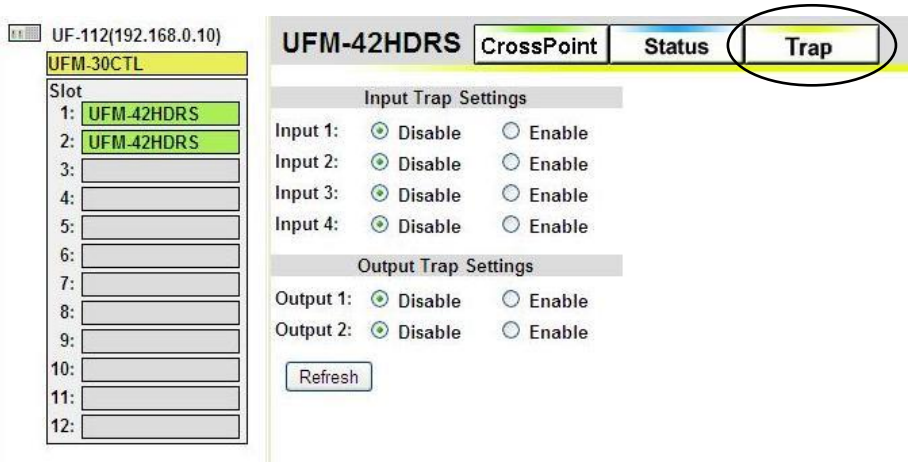
◆ **Module Operation**
Displays the module operational status.

◆ **Input Status**
Displays input signal presence/absence.

◆ **Output Status**
Displays output signal presence/absence.

8-4. SNMP Trap Settings (42HDRS)

Clicking the **Trap** button in the right pane of the browser window opens the Trap page.



Menu item	Description
Input Trap Settings	Allows you to issue SNMP traps when signal loss or recovery for Input 1 to Input 4 is detected. If set to **Enable**, SNMP traps are issued
Output Trap Settings	Allows you to issue SNMP traps when signal loss or recovery for Output 1 to Output 2 is detected. If set to **Enable**, SNMP traps are issued

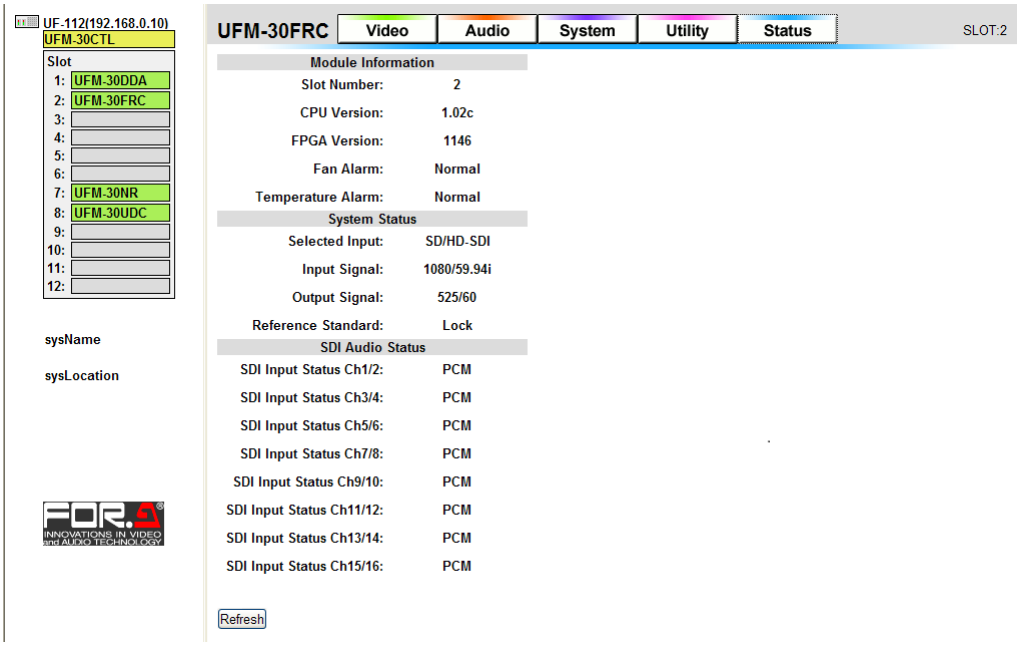
9. Controlling UFM-30FRC

The UFM-30CTL can control a UFM-30FRC that has been installed in the same UFM frame from a web browser on a computer.

> See the "UFM-30FRC Operation Manual" for the details on selectable functions and setting parameters.

9-1. Module Selection and Page Configuration (FRC)

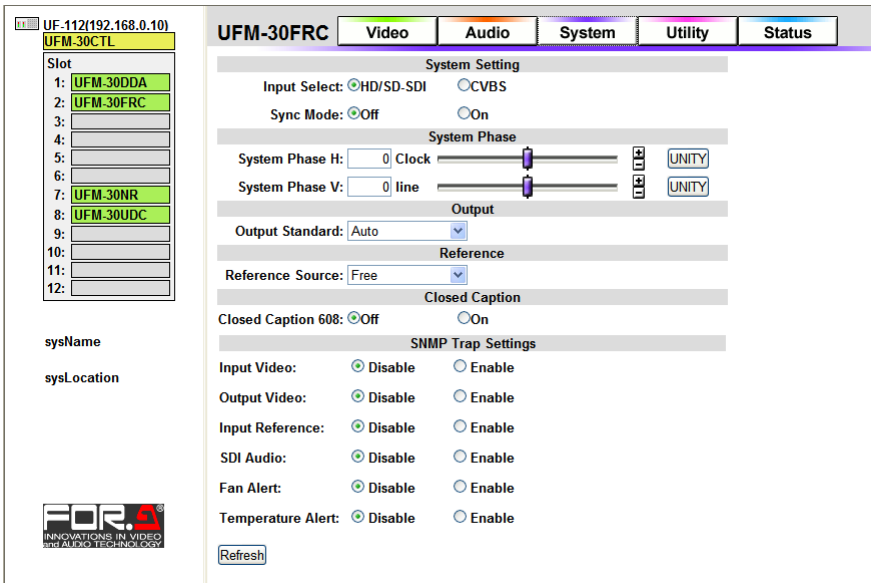
(1) Select the **UFM-30FRC** you wish to control in the menu pane on the left edge of the web window.
(2) The Status page for the selected UFM-30FRC will be displayed. In the figure below, the UFM-30FRC module that is installed in **Slot 2** of UF-112 is selected.



Button	Setting description
Video	Allows to set video processing settings.
Audio	Allows to set audio delay.
System	Allows to set up system synchronization and SNMP traps.
Utility	Allows to output a test signal and save/load setting data.
Status	Allows to display video, audio and module status data.

9-2. System Settings (FRC)

Click **System** among the link buttons. The System page will be displayed. This page allows you to select the input video, output video format, sync mode, and to enable/disable SNMP traps.

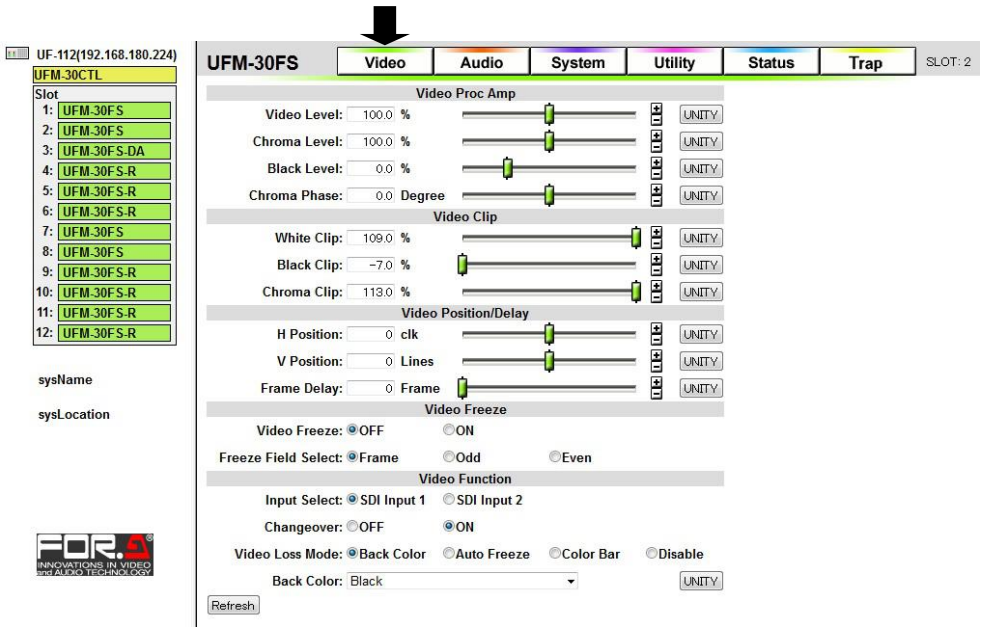


Menu item	Default	Setting range	Description
Input Select	HD/SD-SDI	HD/SD-SDI CVBS	Allows you to select a video signal between **HD/SD-SDI** and **CVBS** (composite).
Sync Mode	Off	Off On	Allows you to minimize the I/O delay to one frame or less (several lines to one-frame), if input and output signal formats are the same. In such cases, VANC data is bypassed.
System Phase H	0	-2063 to 2062 (1 clock)	Allows you to adjust video phases to align with gunlock or input video. When **Reference Source** is set to **Module BNC** or **Chassis BNC**, genlock signal is used for reference. When set to **Input (SDI)**, input signal is used. (See the next page) Settings are adjusted in clocks and lines of the system format, instead of the genlock signal. For example, if 1080/59.94i video is locked to B.B., the system phase settings are adjusted in clocks and lines of the 1080/59.94i format. The setting ranges are as shown below. -1100 to 0 to +1100 clk (horizontal) -563 to 0 to +563 Line (vertical)
System Phase V	0	-563 to 562 (1 line)	
Output Standard	525/60	Auto 625/50 525/60 720/50p 720/59.94p 1080/50i 1080/59.94i 1080/23.98PsF	Allows you to select output signal format. **Auto**: Automatically sets the output signal format in accordance with the input signal as shown below. 1080/50i (Input) >> 1080/59.94i (Output) 1080/59.94i (Input) >> 1080/50i (Output) 720/50p (Input) >> 720/59.94p (Output) 720/59.94p (Input) >> 720/50p (Output) 625/50 (Input) >> 525/60 (Output) 525/60 (Input) >> 625/50 (Output) Note that signal frame rates are changed, but scaling is not performed.

Menu item	Default	Setting range	Description
Reference Source	Free	Module BNC Chassis BNC Input (SDI) Free	**Module BNC**: Uses the reference signal input to the GENLOCK IN port on the UFM-30FRC rear panel to synchronize and output the input video. **Chassis BNC**: Uses the reference signal input to the GENLOCK IN port on the UFM frame rear panel to synchronize and output the input video. **Input (SDI)**: Uses the input video as reference. **Free**: Operates in free-running mode.
Closed Caption 608	Off	Off, On	Allows you to pass (On) or blank (Off) the closed captioning data when converting from 1080/59.94i or 525/60 to 525/60.
SNMP Trap Settings	Disable	Disable Enable	Allows you to enable/disable SNMP traps to be sent when a setting has changed

9-3. Video Settings (FRC)

Clicking the **Video** button opens the Video page.
This page allows you to adjust video input signals.



9-3-1. Video Process AMP

Menu item	Default (Unity)	Setting range (Steps)	Description
Setup level	0.0%	-14.0 to 14.0% (0.1%)	Adjusts the video signal black level.
Luma level	100.0%	70.0 to 130.0% (1.0%)	Adjusts the luminance level.
Chroma level	100.0%	70.0 to 130.0% (1.0%)	Adjusts the chrominance level.

9-3-2. FRC Process

Menu item	Default	Setting range	Description
SD Input format	Normal	Normal	Specifies the aspect ratio of input to 4:3.
		16:9 Anamorphic	Specifies the aspect ratio of input to 16:9 anamorphic (squeezing 16:9 to 4:3).
		16:9 Letterbox	Specifies the aspect ratio of input to 16:9.
		13:9 Letterbox	Specifies the aspect ratio of input to 13:9.
		14:9 Letterbox	Specifies the aspect ratio of input to 14:9.
SD Output format	Normal	Normal	Specifies the aspect ratio of output to 4:3. Both sides of the video are cut off.
		16:9 Anamorphic	Specifies the aspect ratio of output to 4:3.
		16:9 Letterbox	Specifies the aspect ratio of output to 16:9.
		13:9 Letterbox	Specifies the aspect ratio of output to 13:9.
		14:9 Letterbox	Specifies the aspect ratio of output to 14:9.
Upconvert scaling	Fit to height	Fit to height	Scales the image based on its **height** when SD signals are input.
		Fit to width	Scales the image based on its **width** when SD signals are input.

9-3-3. CVBS Input / Output

Menu item	Default	Setting range	Description
CVBS Output standard	PAL/NTSC	PAL/NTSC PALN/PALM PAL/NTSC-J	Allows you to set the video standard output from the **COMPOSITE** connector.
CVBS IN pedestaling	On	Off On	Allows you to select the setup level for when NTSC signal is input into the **COMPOSITE** input connector. **Off:** Sets the setup level to **0IRE** (Japan). **On:** Sets the setup level to **7.5IRE** (e.g., US).

9-3-4. Motion Compensation

Menu item	Default	Setting range	Description
Motion process	On	Off On	Allows you to set convert mode. **Off:** Performs linear conversion. **On:** Performs motion compensation.
Motion sense	On	Off On	Improves vertical resolution for conversion. However, the image may appear incorrectly depending on the source.
Caption bias	3	0 to 7 (1 level)	Allows you to set motion compensation for text. Higher values favor small picture elements with uniform motion such as scrolling captions. Lower values increase the motion process sensitivity for picture elements with fast motion.

9-3-5. Enhancer

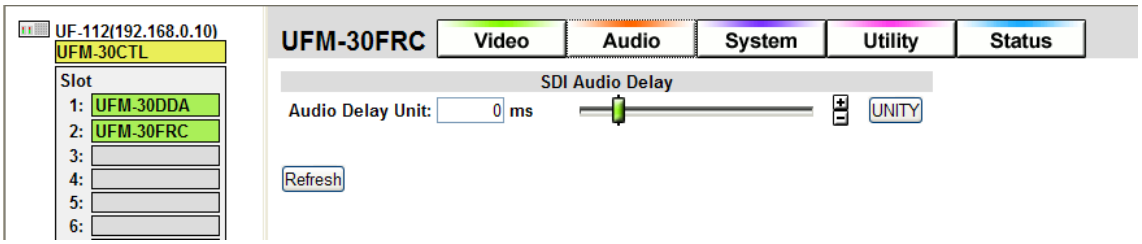
Menu item	Default	Setting range	Description
H Enhancer detail	Normal	Soft 2 Soft 1 Normal Sharp 1 Sharp 2	Allows you to set the horizontal enhancer. **Soft 2:** Reduces horizontal bandwidth from a lower cut-off frequency. **Soft1:** Reduces horizontal bandwidth from a higher cut-off frequency (less energy loss). **Normal:** No enhancer will be applied. **Sharp1:** Increases horizontal bandwidth from a higher cut-off frequency. Most effective when down-converting. **Sharp2:** Increases horizontal bandwidth from a lower cut-off frequency. Most effective when down-converting. Can cause alias.
H Enhancer sharpness	Normal	Low 2 Low 1 Normal High 1 High 2	Allows you to set the H Enhancer frequency range. If **H Enhancer detail** is set to **Normal**, this setting is disabled. From **Low 2** to **High 2**, enhancer frequency range is gradually narrowed.
V Enhancer frequency	Medium	Low Medium High	Allows you to set the V Enhancer frequency range. If **V Enhancer level** is set to **Normal**, this setting is disabled. **Low:** Vertical aperture with low cut-off frequency. **Medium:** Vertical aperture with medium to high cut-off frequency. **High:** Vertical aperture with high cut-off frequency.
V Enhancer level	Normal	Soft Normal Sharp 1 Sharp 2 Sharp 3	Allows you to set the vertical enhancer. **Soft:** Reduces vertical bandwidth. **Normal:** No enhancer will be applied. **Sharp 1:** Increases vertical bandwidth (low). **Sharp 2:** Increases vertical bandwidth (medium). **Sharp 3:** Increases vertical bandwidth (high).

9-3-6. Film

Menu item	Default	Setting range	Description
Film cadence insert	Off	Off On	Allows you to set the conversion method for when converting from 1080/23.98PsF to 1080/59.94i. **Off:** Performs motion compensation or linear conversion. **On:** Performs 3:2 pulldown conversion.

9-4. Audio Settings (FRC)

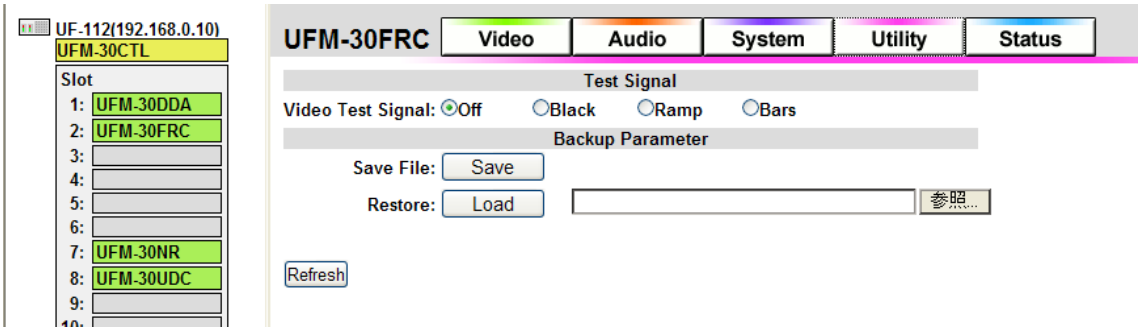
Clicking the **Audio** button opens the Audio page.
This page allows you to set audio delay.



Menu item	Default	Setting range	Description
Audio delay unit	0	-40 to 200 ms (1 ms)	Allows you to apply a common amount of audio delay to all output channels.

9-5. Utility Settings (Utility) (FRC)

Clicking the **Utility** button opens the Utility page.
This page allows you to output a test signal, save and load UFM-30FRC settings.



Menu item	Default	Setting range	Description
Video Test Signal	Off	Off Black Ramp Bars	Allows you to select a test signal to output.
Save File	-	-	Saves the UFM-30FRC settings to a file. (See section 9-5-1 below.)
Restore	-	-	Loads parameter settings to the UFM-30FRC from a file. (See section 9-5-1 below.)

9-5-1. Saving / Loading Parameters

UFM-30FRC parameters can be saved as a file and loaded to the UFM-30FRC from the file.

◆ **To Save Current Settings as a File**

(1) Click Save in the Backup Parameter area at the top of the Utility page.

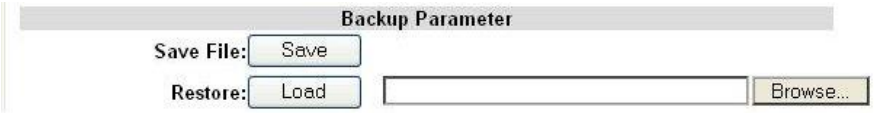
(2) The File Download dialog appears. Click **Save**.

(3) The Save As dialog appears. Select a directory under which you wish to save the file and click **Save**. The file will be saved as ufm30frc.dat. You can rename the file name.

(4) The Download Complete dialog appears when the save is complete. Click **Close** to close the window.

◆ **To Load Settings from a File**

(1) Click **Browse** in the Backup Parameter area at the top of the Utility page. The File Selection dialog appears.

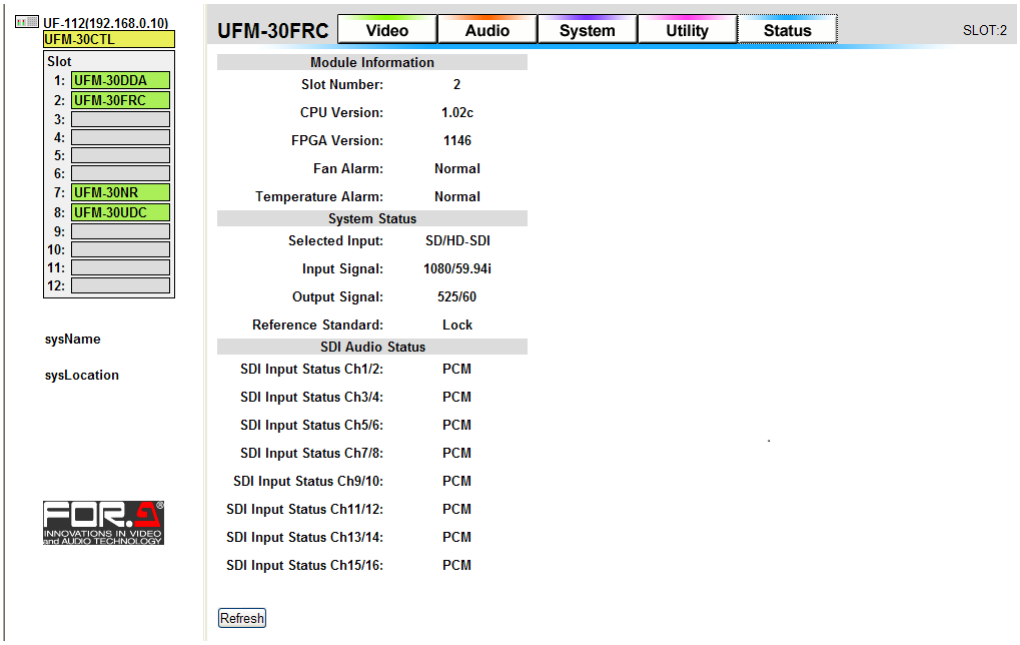


(2) Select a file, and click **Open**.

(3) Click **Load** in the Backup Parameter area at the top of the Utility page to load the file to UFM-30FRC.

9-6. Status Display (Status) (FRC)

Clicking on **Status** in the UFM-30FRC window as indicated in the figure below opens the Status page. This page shows status displays of the video signal and UFM-30FRC board.



Menu item	Description
Slot Number	Displays the slot number of the installed module.
CPU Version	Displays the CPU version.
FPGA Version	Displays the FPGA version.
Fan Alarm	Displays the on-board cooling fan status.
Temperature Alarm	Displays the board temperature status.
Selected Input	Displays the input signal mode: SDI or Composite.
Input Signal	Displays the input signal TV standard.
Output Signal	Displays the output signal TV standard.
Reference Standard	Displays status of reference input.
SDI Input Status 1/2 to 15 /16	Displays audio format of each paired-channel

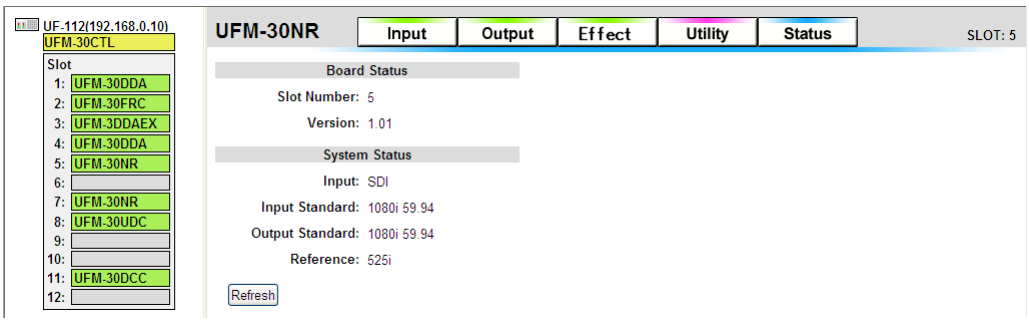
10. Controlling UFM-30NR

The UFM-30NR can control a UFM-30NR that has been installed in the same UFM frame from a web browser on a computer.

> UFM-30NR module units can be controlled from the unit OSD menu and UFM-30CTL simultaneously. When changing the same menu parameter, the OSD menu has a higher priority than UFM-30CTL.
>
> See the "UFM-30NR Operation Manual" for the details on selectable functions and setting parameters.

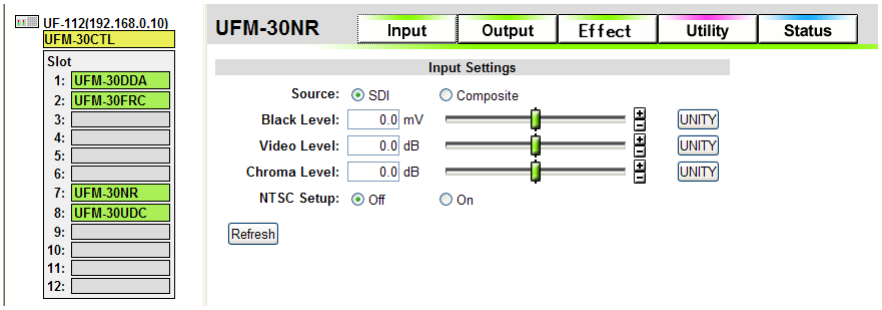
10-1. Module Selection and Page Configuration (NR)

(1) Select the **UFM-30NR** you wish to control in the menu pane on the left edge of the web window.
(2) The Status page for the selected UFM-30NR will be displayed. In the figure below, the UFM-30NR module that is installed in **Slot 5** of UF-112 is selected.



10-2. Input Settings (Input) (NR)

Clicking on **Input** in the UFM-30NR window as indicated in the figure below opens the Input page. This page allows you to select an input signal and setup video processing.

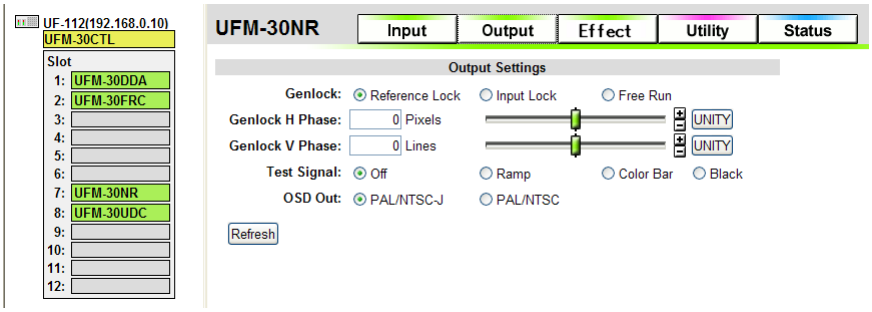


Menu item	Default (Unity)	Setting range (Steps)	Description
Source	SDI	**SDI** Composite	Selects an input signal port to be processed. (HD/SD auto detection) **SDI:** Uses the HD/SD-SDI input. **Composite:** Uses the composite input.
Black level	0.0mV	-100 to +100mV (0.8mV)	Adjusts the black level in 0.8-mV steps.
Video level	0.0dB	-6.0 to +6.0dB (0.2dB)	Adjusts the video level in 0.2-dB steps.

Chroma level	0.0dB	-6.0 to +6.0dB (0.2dB)	Adjusts the chroma level in 0.2-dB steps.
NTSC setup	Off	**Off** On	Selects the NTSC setup. **Off:** Uses the NTSC 0 IRE setup for the composite input. **On:** Uses the NTSC 7.5 IRE setup for the composite input.

10-3. Output Settings (Outout) (NR)

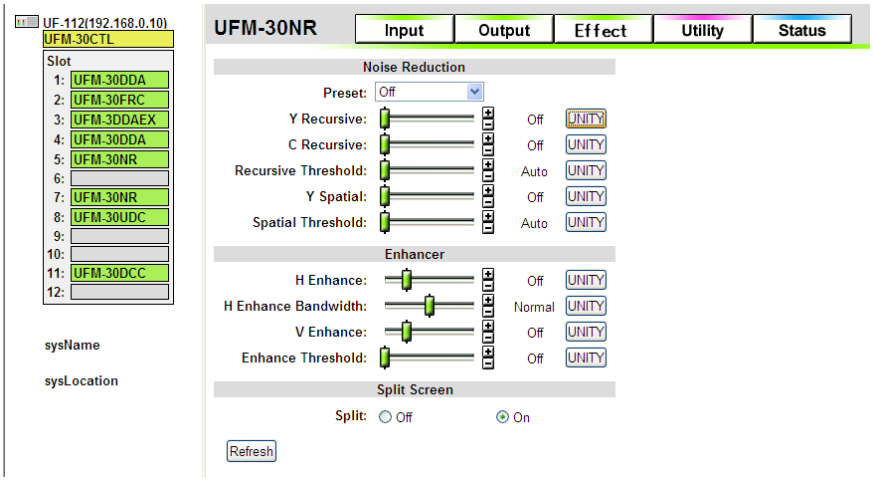
Clicking on **Output** in the UFM-30NR window opens the Output page. This page allows you to select sync mode, test signal and monitor setup level.



Menu item	Default (Unity)	Setting range	Description
Genlock	Free Run	Reference lock Input lock **Free Run**	Selects the reference mode. **Reference lock:** Adjusts the input signal within one frame by using an external reference signal. If Black Burst is used, the video horizontal phase can be adjusted, but not the sub-carrier phase. (H lock) **Input lock:** Adjusts and outputs video in synchronized with the input video. **Free run:** Outputs video in free-running mode.
Genlock H phase	0 pixels	-1319 to +1319	Adjust the horizontal phase of the reference signal on a **per-pixel** basis when **Genlock** is set to **Reference lock**.
Genlock V phase	0 Lines	-563 to +562	Adjust the vertical phase of the reference signal on a **per-line** basis when **Genlock** is set to **Reference lock**.
Test signal	Off	**Off** Ramp Color bar Black	Outputs an internally-generated test signal. **Off:** Outputs the processed input video. **Ramp:** Outputs the Ramp signal. **Color bar:** Outputs the Color bar signal. **Black:** Outputs the Black signal.
OSD out	**PAL/NTSC-J**	**PAL/NTSC-J** PAL/NTSC	Selects the OSD output signal format. **PAL/NTSC-J:** Uses Japanese NTSC with 0 IRE setup or PAL. **PAL/NTSC:** Uses North American NTSC with 7.5 setup or PAL.

10-4. Effect (NR)

Clicking on **Effect** in the UFM-30NR window opens the Effect page. This page allows you to setup noise reducer and video enhancer.



10-4-1. Noise Reduction

Menu item	Default	Setting range	Description
Preset	Off	**Off** Low 2 to 15 High **-**	Sets the strength of the overall noise filter. **Off:** Performs no filtering. **Low** to **High:** The higher the value, the more noise reduction there is. **-:** Indicates any parameter **other than the Preset** is changed or adjusted.
Y Recursive C Recursive	Off	**Off** Min 2 to 6 Max	Sets the strength of the temporal recursive filter. **Y Recursive** adjusts luminance and **C Recursive** adjusts chrominance components. **Off:** Performs no filtering. **Min** to **Max:** The higher the value, the more noise reduction there is.
Recursive threshold	Auto	**Auto** Min 2 to 7 Fixed	Sets the ratio of recursive-filtered regions against non-filtered regions of the output video. **Auto:** Automatically sets the ratio according to the strength of temporal noise. **Min** to **7:** The higher the value, the more filtered regions there are. **Fixed:** Processes all video regions using the recursive filter.
Y Spatial	**Off**	**Off** Min 2 to 7 Max	Sets the strength of the spatial (luminance) filter. **Off:** Performs no filtering. **Min** to **Max:** The higher the value, the more noise reduction there is, but edge blurring and loss of details increase.
Spatial threshold	Auto	**Auto** Min 2 to 7 Fixed	Sets the ratio of spatially-filtered regions against non-filtered regions of the output video. **Auto:** Automatically sets the ratio according to the strength of spatial noise. **Min** to **7:** The higher the value, the more filtered regions there are. **Fixed:** Processes all video regions using the spatial filter.

10-4-2. Enhancer

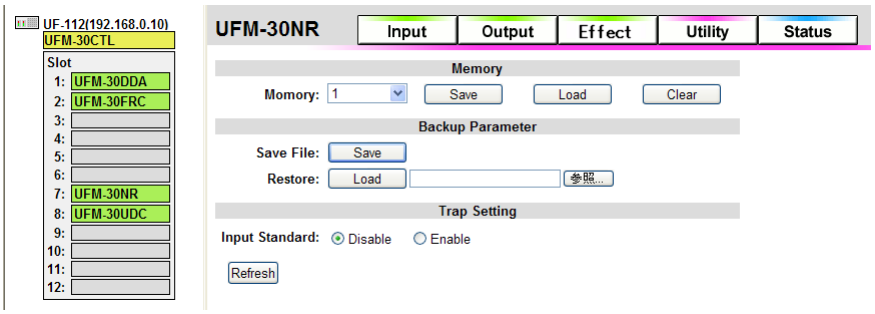
Menu item	Default	Setting range	Description
H Enhance	Off	Soft **Off** Sharp 1 to 3	Sets the horizontal enhancement level. **Soft:** Attenuates the High-frequency portion of the video signal. **Off:** Performs no enhancement processing. **Sharp 1** to **3:** The higher the value, the denser the High-frequency portion.
H Enhance bandwidth	Normal	Low2 to 1 **Normal** High1 to 2	Sets the bandwidth to which the horizontal enhancer is applied. **Low 2** to **1:** Enhances Low- to Mid-frequency portion of the video signal. **Low 2** can enhance lower frequency portions than that of **Low 1**. **Normal:** Enhances Mid- to High-frequency portions of the video signal. **High 1** to **2:** Enhances High-frequency portions of the video signal. **High 2** can enhance higher frequency portions than that of **High 1**.
V Enhance	Off	Soft **Off** Sharp 1 to 3	Sets the vertical enhancement level. **Soft:** Attenuates the High-frequency portion of the video signal. **Off:** Performs no enhancement processing. **Sharp 1** to **3:** The higher the value, the denser the High-frequency portion.
Enhance threshold	Off	**Off** Min 2 to 6 Max	Adjusts the amount of enhancement. **Off:** Performs enhancement processing without adding extra overhead. **Min** to **Max:** The higher the value, the less overhead is added.

10-4-3. Split

Menu item	Default	Setting range	Description
Split	Off	**Off** On	**Off:** Displays the filtered video in full screen mode. **On:** Displays the filtered video on the left side and the input video on the right side.

10-5. Utility (NR)

Click **Utility** among the link buttons. The Utility page will be displayed. This page allows you to save / load UFM-30NR settings.



10-5-1. Memory

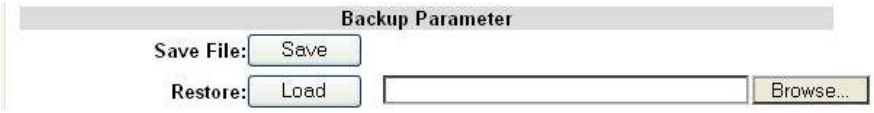
Menu item	Setting range	Description
Memory	1-16	Allows you to select the memory number.
Save	-	Allows you to save the current settings to the selected memory number.
Load	-	Allows you to loads the settings saved in the selected memory number.
Clear	-	Allows you to clear the selected memory data.

10-5-2. Saving / Loading Parameters

UFM-30NR parameters can be saved as a file and loaded to the UFM-30NR from the file.

◆ **To Save Current Settings as a File**

(1) Click Save in the Backup Parameter area at the top of the Utility page.



(2) The File Download dialog appears. Click **Save**.

(3) The Save As dialog appears. Select a directory under which you wish to save the file and click **Save**. The file will be saved as ufm30nr.dat. You can rename the file name.

(4) The Download Complete dialog appears when the save is complete. Click Close to close the window.

◆ **To Load Settings from a File**

(1) Click Browse in the Backup Parameter area at the top of the Utility page. The File Selection dialog appears.

(2) Select a file, and click Open.

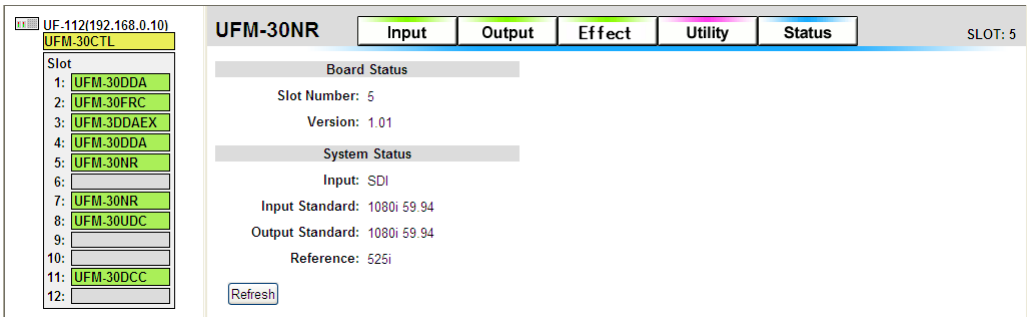
(3) Click **Load** in the Backup Parameter area at the top of the Utility page to load the file to UFM-30NR.

10-5-3. Trap Setting

Menu item	Default	Setting range	Description
Input Standard	Disable	Disable Enable	Allows you to issue SNMP traps when the input signal format is changed.

10-6. Status (NR)

Click **Status** among the link buttons. The Status page will be displayed. This page shows status displays of the video signal and UFM-30NR board.



Menu item	Description
Slot Number	Slot number of installed module
Version	Module version
Input	Displays the selected input signal.
Input Standard	Displays the input signal format.
Output Standard	Displays the output signal format.
Reference	Displays the reference signal format.

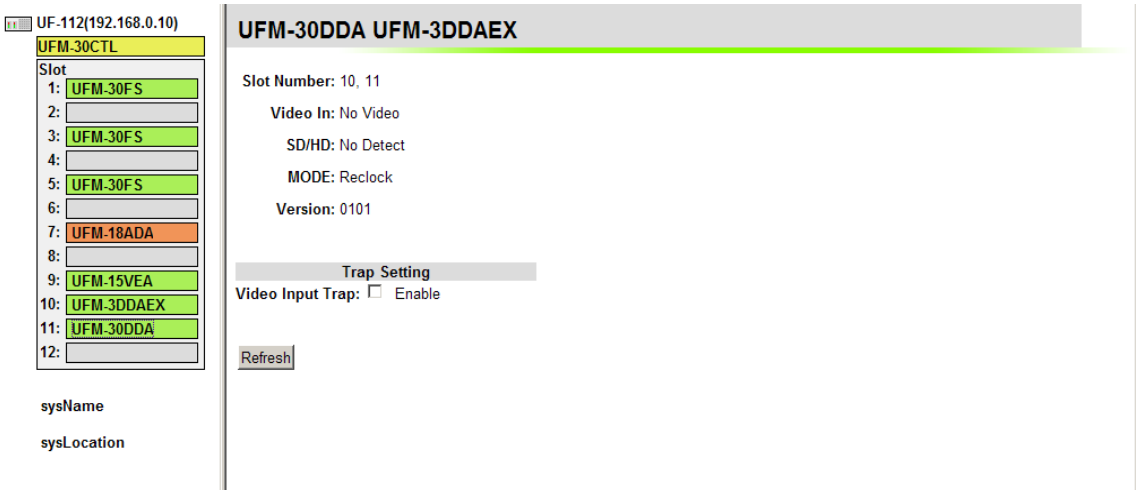
11. Monitoring UFM Modules

The status of UFM modules can be monitored from the UFM-30CTL via a Web browser.

11-1. UFM-30DDA/3DDAEX

Select the UFM-30DDA module you want to monitor in the menu pane on the left edge of the web window. The Status page for UFM-30DDA will be displayed. If a UFM-3DDAEX is installed, the status of UFM-3DDAEX will also be displayed.

◆ **If UFM-30DDA/UFM-3DDAEX is or are installed**

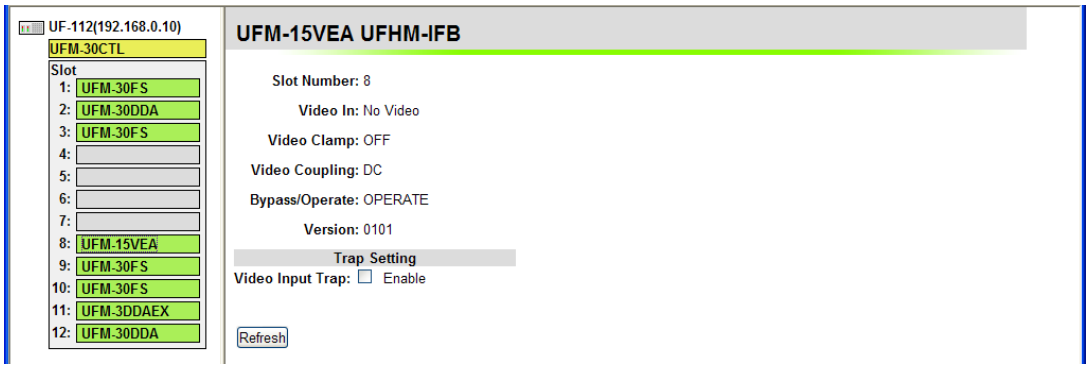


Menu item	Description
Slot Number	Slot number of installed modules
Video In	Status of video input and output. **Video In**: Video input present **No Video**: No video input
SD/HD/3G	Whether input video is SD-SDI or HD-SDI **SD-SDI**: SD-SDI input present **HD-SDI**: HD-SDI input present **3G-SDI**: 3G-SDI input present **No Detect**: No video input or input of unsupported format present
MODE	Displays whether reclock is enabled or disabled. **Reclock**: Enabled **Reclock** BYPASS: Disabled
Version	Board version description
Video Input Trap	Allows you to determine whether to send a trap when the video input status (presence or absence) is changed.

NOTE
See the UFM-30DDA/DDAEX Operation Manual for details on status.

11-2. UFM-15VEA/15VDA/18VDA

Select the UFM-15VEA/15VDA/18VDA module you want to monitor in the menu pane on the left edge of the web window. The Status page for UFM-15VEA/15VDA/18VDA will be displayed.

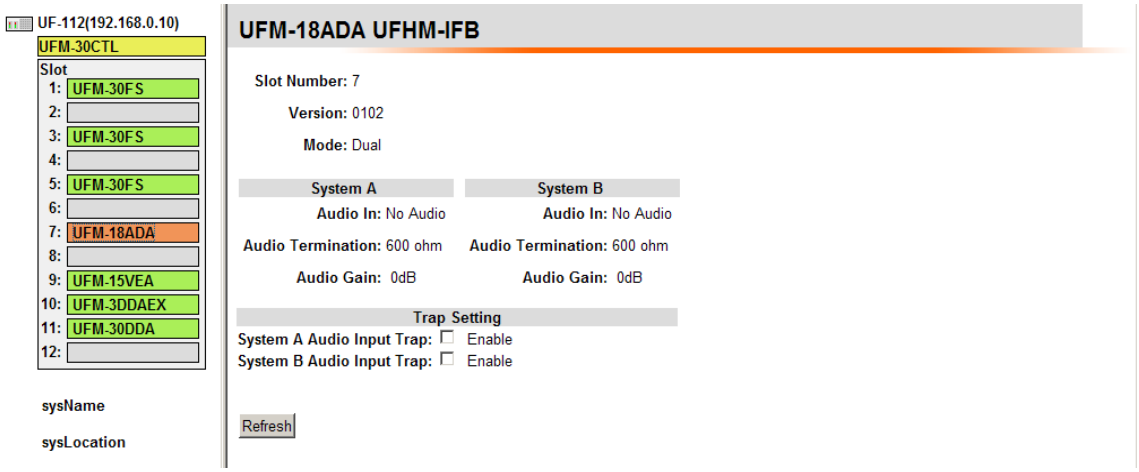


Menu item	Description
Video Input Trap	Allows you to determine whether to send a trap when the video input status (presence or absence) is changed.

See the UFM-15VEA or UFM-15VDA/18VDA Operation Manual for details on status.

11-3. UFM-14ADA/18ADA

Select a UFM-14ADA as the module you want to monitor in the menu pane on the left edge of the web window to open the Status page for UFM-14ADA .
Select a UFM-18ADA as the module you want to monitor in the menu pane on the left edge of the web window to open the Status page for UFM-18ADA.



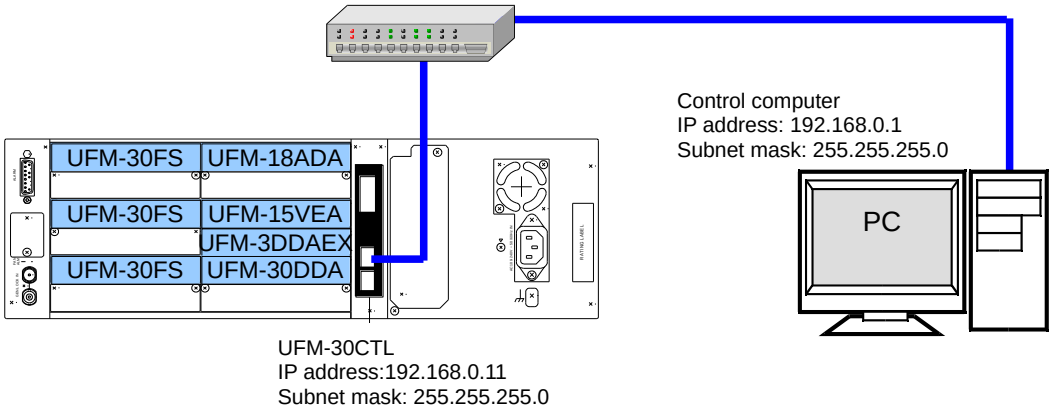
Menu item	Description
System A Audio Input Trap	Allows you to determine whether to send a trap when the audio input status (presence or absence) of System A is changed.
System B Audio Input Trap	Allows you to determine whether to send a trap when the audio input status (presence or absence) of System B is changed.

See the UFM-14ADA/UFM-18ADA Operation Manual for details on status.

12. Monitoring Using SNMP

12-1. Connection (LAN2)

The figure below shows a connection example through the LAN2 port on the UFM-30CTL. The SNMP (LAN2) can join the LAN1 network.



If the MIB version of your UFM module system is **1.*.*** (the SNMP monitoring system shipped before 2011), set **SW8** of the FUNCTION switch to **ON** to activate SNMP monitoring. See section 2-5. "FUNCTION Switch Settings" for details.

12-2. SNMP Specifications

SNMP protocol

SNMP version	SNMPv2c
GET	Supported
SET	Partly supported
TRAP	Supported

Monitored items (GET and TRAP)

Power	
Temperature	
Fan	
DC POWER	Modules in UFM Frame only
Module installation status	For each slot

Setting items (SET)

UFM-30FS/FS-R/FS-DA	Video Test Signal
	Input Select
	Audio Test Signal
UFM-30DCC	Input Select
	Video Test Signal (CC1)
	Bypass/Operate (CC1)
	Video Test Signal (CC2)
	Bypass/Operate (CC2)

UFM-30UDC	Input Source
	Output Format
	Genlock Mode
	Test Pattern
	ARC Mode
	Input Aspect
	Enhance
	Motion Sense
UFM-42HDRS	Crosspoint settings
UFM-30FRC	Input Source
	SD In Aspect
	SDI Out Aspect
	Upconvert Scaling
	Motion Process
	Sync Mode
	Output Standard
	Reference Source
	Test Signal
UFM-30NR	Input Source
	Preset
	Split
	Memory Recall

Compatible MIB

mib-2 (1.3.6.1.2.1)
ufmModular (1.3.6.1.4.1.20175.1.200)

IMPORTANT
See the MIB file for a list of monitoring items from the SNMP Manager (via UFM-30CTL SNMP port). To obtain MIB files, please contact your sales agent.

13. Troubleshooting

If any of the following problems occur during UFM-30CTL operation, proceed as indicated below to see if the problem can be corrected before assuming a unit malfunction has occurred.

Problem	Check	Action
Unable to open the browser window.	Has the connection to the LAN1 port been properly established?	Establish connection as described in section 3-2 "Basic Connection."
	Have you changed the IP address of your UFM-30CTL?	If the IP address has been changed, enter the new IP address in the address bar. (See section 4-3. "Module Selection and Network Settings (UF-112)" and section 4-4 "Module Selection and Network Settings (UF-106B.")
Unable to access UFM-30CTL setting windows.	Are the entered password and user name correct?	Ensure the correct password and user name you have set, or the default settings have been entered, if you have not changed them.
Unable to freeze video.	Is the UFM-30FS/FS-R/FS-DA set to Line Sync mode?	The freeze menus are disabled if UFM-30FS/FS-R/FS-DA is set to Line Sync mode. Change the Sync Mode to Frame Sync or Input Lock. (See section 5-3-11. "System Settings (System).")
Unable to Load or Save events.	Is Auto Event Load set to Enable?	The Event Load and Event Save menus are disabled if Auto Event Load is enabled. Set Auto Event Load to Disable. (See section 5-5. "Utility Settings (Utility).")
Unable to display a web page properly.	--	Refresh the page in the web browser and the page should be displayed correctly.

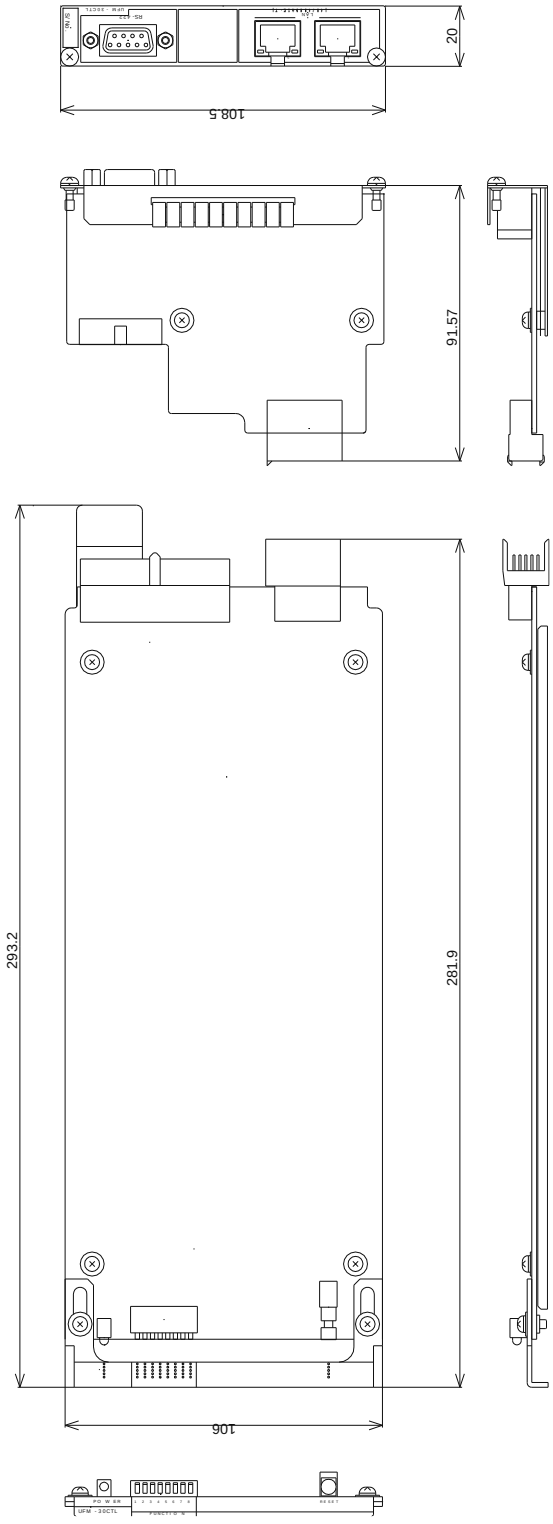
14. Specifications and Dimensions

14-1. Specifications

Interface		
	LAN1	100BASE-TX/10BASE-T, RJ-45 connector, 1 port (for remote control and monitoring)
	LAN2	100BASE-TX/10BASE-T, RJ-45 connector, 1 port (for SNMP monitoring)
	RS-422	9-pin D-sub connector, female, 1 port (for future use)
Temperature		0 ℃ - 40℃
Humidity		30% - 85% (No condensation)
Power		+24 VDC Supplied from UFM frame.
Current consumption		0.4 A
Dimensions		Front module: 106 (W) x 293.2 (D) mm Rear module: 108.5 (W) x 91.57 (D) mm
Slot requirement		1 vertical slot (UF-112) 1 horizontal slot (UF-106B)
Weight		0.5 kg
Consumables		None
Supported modules		UFM-30FS,UFM-30FS-R, UFM-30FS-DA UFM-30DCC UFM-30UDC UFM-30DDA UFM-42HDRS/HDRSA UFM-15VDA (UFHM-IFB required) UFM-18VDA (UFHM-IFB required) UFM-15VEA (UFHM-IFB required) UFM-14ADA/18ADA (UFHM-IFB required)

14-2. External Dimensions

(All dimensions in mm.)



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Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

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